

# The Boston Medical and Surgical Journal

## Table of Contents

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### ORIGINAL ARTICLES

NOTES OF A CONFERENCE ON THE MEDICAL AND SOCIAL ASPECTS OF SYPHILIS OF THE NERVOUS SYSTEM. By Abner Post, M.D., Boston	867
EXAMINATION AND PROPHYLAXIS FOR SYPHILITIC PATIENTS AND THEIR FAMILIES: METHODS OF INVESTIGATION AT THE PSYCHOPATHIC HOSPITAL, BOSTON, MASSACHUSETTS, 1915. By Helen M. Wright, Boston	869
BLADDER TUMORS IN THE YOUNG. By R. F. O'Toole, M.D., Boston	873
A STUDY OF KROENIG'S ISTHMUS IN PULMONARY TUBERCULOSIS. By Walter C. Klotz, M.D., Los Angeles, Cal.	877
INTUSSUSCEPTION. By William E. Ladd, M.D., F.A.C.S., Boston	879

### CLINICAL DEPARTMENT

SOME UNCOMMON TYPES OF SKIN DISEASE. By A. J. Nute, M.D., Boston	881
--	-----

### MEDICAL PROGRESS

PROGRESS IN BROCHOMETER. By A. Everett Austin, M.D., Boston	883
---	-----

### HARVARD MEDICAL SCHOOL

MEDICAL EXPERT TESTIMONY AND LEGAL LIABILITY	889
MEDICAL MEETING IN THE AMPHITHEATRE OF THE PETER BENT BRIGHAM HOSPITAL, TUESDAY EVE., NOV. 23, AT 5.15 O'CLOCK	890

### BOOK REVIEWS

The Medical Record Visiting List or Physician's Diary for 1916. William Wood & Company, 1915.	891
The Physician's Visiting List for 1916. P. Blakiston's Son & Company, 1915.	891
The Practitioner's Visiting List for 1916. Lea & Febiger, 1915	891
The Etiology of Typhus Exanthematicus. By Harry Plotz, Peter K. Olitsky and George Baehr, 1915.	891

## Original Articles.

### NOTES OF A CONFERENCE ON THE MEDICAL AND SOCIAL ASPECTS OF SYPHILIS OF THE NERVOUS SYSTEM.

HELD AT THE PSYCHOPATHIC HOSPITAL,  
MAY 27, 1915.

#### I.

REMARKS AT NEUROSYPHILIS CONFERENCE,  
MAY 27, 1915.\*

BY ABNER POST, M.D., BOSTON.

We have a very interesting matter under consideration at these exercises today. Syphilis of the nervous system has exercised the ingenuity and careful study of the authors of the papers read. To realize how important a matter syphi-

\* Being S. B. I. Contribution, whole No. 122 (1915.25). This and the following constitute a series of papers presented in full or in abstract at a Conference on Neurosyphilis: Medical and Social Progress, held at the Psychopathic Hospital, Thursday, May 27, 1915. Previous Psychopathic Hospital Conferences on matters of general psychopathological or special psychiatric interest have been held on *Some Medical and Social Aspects of Mental Disease Due to Alcoholism*, (before the Legislative Committee on Drunkenness), November 24, 1912, and on *Modern Developments in Mental Nursing*, February 16, 1914. These were published in the BOSTON MEDICAL AND SURGICAL JOURNAL of December 22, 1913, and September 24, 1914, respectively. Future conferences will deal with heredity, social service, mental hygiene, and other general topics with which the Psychopathic Hospital is vitally concerned, the whole series of conferences being designed to bring out the major medical and social aspects of the psychopathic and psychiatric problem as it must be faced by the modern state. (Bibliographical Note.—The previous contribution was State Board of Insanity Contributions, whole No. 121 (1915.24) by E. E. Southard, entitled "Advantages of a Pathological Classification of Nerve Cells, with Remarks on Tissue Decomposition as Shown in the Cerebral and Cerebellar Cortex," in *Transactions of Association of American Physicians*, 1915.)

Guide to the Use of Tuberculin. By Archer W. R. Cochrane and Cuthbert A. Spradson	892
What to Eat and Why. By G. Carroll Smith, M.D., Boston	893
The Development of the Human Body. By J. Playfair McMurrich, A.M., Ph.D., LL.D.	892
Notes on Dental Metallurgy. By W. Bruce Hepburn, L. D. S., Glasgow	892
The Book of the Fly. By G. Hurlstone Mardy	892

### EDITORIALS

DISTRICT MEDICAL SOCIETIES	893
MEDICAL MILITARY REORGANIZATION	893
A NEW DEPARTMENT	894
MASSACHUSETTS MEDICAL NEUROLOGICAL SOCIETY	895
A STUDY IN HOSPITAL EFFICIENCY	895
MEDICAL NOTES	895

### MASSACHUSETTS MEDICAL SOCIETY

COPY OF RESOLUTIONS PASSED BY THE SOUTHERN MEDICAL ASSOCIATION, AT DALLAS, TEX., NOV. 8-11, 1915	898
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### OBITUARY

FREDERICK WILLIAM RUSSELL, M.D.	899
BENJAMIN JOY JEFFRIES, M.D.	899

### CORRESPONDENCE

A WOMAN QUACK OF OLDER TIMES. Wm. Pearce Coates, M.D.	903
AN IMPERFORATE ANTER. George W. Gay, M.D.	903

### MISCELLANY

STEREOPTICON LOAN LIBRARY	900
RAVIES AND DOG METEELING IN NEW YORK	901
STERILIZATION OF DENTAL INSTRUMENTS	902
CHANGES IN THE MEDICAL CORPS, U. S. NAVY	903
NOTICES, APPOINTMENTS, RECENT DEATHS, ETC.	904

lis is in the community, one must remember that syphilis occupies the same important place in almost every public institution in the state. Syphilis in the Eye and Ear Infirmary is just as important as it is here. There is surgical syphilis and medical syphilis and internists are devoting just as much thought to syphilitic diseases of the internal organs as the people here are to cerebrospinal syphilis.

The financial aspect of the disease is extremely interesting. This is the only communicable disease where the community demands that the suffering individuals shall bear the expense of protecting the community. The individual with syphilis must pay for his own treatment or go without. We recognize him as an individual dangerous to the public health, and still the only place, practically speaking, where he can get his treatment in a manner to protect the community is in the State Hospital at Tewksbury. That is not of course absolutely true because there are charitable institutions and individuals who are interested in particular cases to whom they give individual help,—but as a rule the State makes the individual pay for his own fees and only in that way affords protection to the rest of the community. We take care of smallpox patients, we take care of patients with diphtheria, we spend large sums on tuberculosis patients and very large sums on a very small number of cases of leprosy, but the poor syphilitic must take care of himself. However, things are getting much better. The Massachusetts General Hospital has devoted a separate department to syphilis, with a large out-patient service and a small number of beds, and there is every reason to expect a permanent in-

crease in the ward accommodations in the future.

In the city of Memphis, within a year, they have so arranged matters that a doctor can send a man with syphilis to a hospital and he is received and treated as a matter of course, as if it were any other disease.

Salvarsan is an interesting drug and especially interesting at the present moment when it is becoming somewhat scarce. One must hope that there may be other possible combinations of equal therapeutic value, because it is inconvenient to be dependent on another country with such limited means of transportation as Germany has at present, and the financial aspect of the thing assumes some importance when we consider the real expense. It would seem that if the remedy were absolutely cut off, some of our chemists might be able to produce a remedy of somewhere near the same value which could be used without any special weight upon the financial condition of the State.

The social conditions of syphilis interest me extremely. The social worker has perhaps as delicate a task in attempting to improve the social conditions of the syphilitic family as any social worker has. It is a matter that requires tact, sympathy and patience, and it is a matter which presents most wonderful opportunities for mischief, and some of the earliest attempts at social work in behalf of syphilitics were unfortunate.

When the social worker goes into the family of a syphilitic, she must dismiss from her mind any presupposed guilt.

Syphilis is perhaps the only crime in which it is taken for granted that the individual is guilty. Of any other crime it is assumed that he is innocent until his guilt is proven, but socially, morally and physically, we have for generations taken it for granted that the person with syphilis is guilty of some lapse from morality, and one cannot expect that patients who are approached on that basis will always be responsive. It is not strange that stories differ when patients are approached by different individuals, each one convinced that the patient owes his misfortune to his own evil deeds. It is not surprising that patients should refuse to tell the truth when they see a lady come in with a notebook and pencil and they know their own confessions are going to be put down in black and white. I think we owe it to our patients that the recorded history shall not always be absolutely full. There are some things which ought not to be put down in black and white, which do not necessarily contribute to the value of the history; and one must remember that the number of innocents is really very great. Of the innocent infections in which the seat of infection, such as those on the lips or tonsils or fingers is known, there are somewhere near 8-10%. One in every ten or twelve is too large a proportion to be ignored. If you think of 1000 syphilitics—and it takes a very short time to count

up 1000 in a hospital of this size,—there are between 80 and 100 innocent infections. If in addition you will consider the individuals who are innocently infected in marriage, the innocent husbands and the innocent wives who are thus infected, and the hereditary cases,—you have a very large number of innocent syphilitics. I am not sure that 50%, taking all the different data, is at all too large a percentage for the number of innocent syphilitics. And even if the syphilitic is not innocent, the suffering which syphilitic parents undergo in seeing their syphilitic children grow up about them is something terrible. There are few doctors who have dealt with syphilitics who have not in mind case after case where father or mother has come to talk the matter over, to make sure that the doctor really understands the case. If any class of individuals need sympathy, it is the syphilitic parents. I cannot help thinking of the advice given by his father to a friend of mine: "John, if your friend is in trouble, stick to him; if he is in trouble and it is his own fault, stick to him, for that is when he needs you."

There is one sentence in a textbook on social service in an article on syphilis which states that no matter what the condition of the syphilitic may be, it will always refer back to a venereal source. One might add to that clause that if you will investigate further, you will find an innocent case connected with it also.

I am very anxious not to misstate or exaggerate. Without any regard to numbers, some such statement as this would express my meaning:

The innocents are too many to be ignored:

The immoral are not all lost souls; some of them are to be numbered with those repentant sinners who cause more joy in heaven than those who never went astray:

The innocent and guilty are so mingled that only the All-Seeing and All-Knowing can absolutely separate them:

Many are already suffering the torture of an earthly hell, and it is the function of Social Service to seek and save rather than to judge in a cause of which our knowledge is at best very imperfect.

The percentage of syphilitics in the Psychopathic Hospital, according to Dr. Southard, cannot be very different from the number found in the community. There have been a good many attempts to get some idea of the number of individuals who either have or have had syphilis, for syphilis is so chronic a disease that in matters of census-taking "once a syphilitic is considered always a syphilitic." In Paris some investigations by Fournier resulted in a statement of something like 17% in the general population. Dr. Hyde of Chicago made some calculations in which he thought the population of Chicago was syphilitic to the extent of 15% and it is somewhere in that vicinity—between 10% and 20% in all probability, as far as one can get any idea from figures. This is certainly a suf-

ficiently large number; but there is no sense whatever, as Dr. Southard has already said, in talking about 50% of the population being syphilitic. One must keep in mind also in thinking of syphilis, that not all syphilitics are equally dangerous. The danger is confined practically to the individual whose syphilis is comparatively fresh and who has external moist lesions, so that the mere presence of a syphilitic is not by any means a source of danger. Syphilis is one of the least dangerous of communicable diseases.

It is natural, right and proper that in such studies as have been made here that the scientific diagnosis should be especially emphasized. If you wish really to draw conclusions which shall be convincing to others, you need the scientific data, but the clinical study of the disease needs to be stimulated. When one hears so many stories of individuals with scientific proof of syphilis in the entire absence of clinical lesions, it seems worth while to accept the statement with a little hesitation, because the clinical signs are not studied as carefully as they ought to be. Notwithstanding that they have been studied for years, it is difficult to feel absolutely sure about the syphilitic character of some of the children of syphilitics, and even those with absolutely convincing clinical signs do not all show positive Wassermann.

We may all feel gratified at the interest shown in the meeting today, and as a community we ought to be grateful for the interest added to the study of syphilis by the Psychopathic Hospital.

## II.

### EXAMINATION AND PROPHYLAXIS FOR SYPHILITIC PATIENTS AND THEIR FAMILIES: METHODS OF INVESTIGATION AT THE PSYCHOPATHIC HOSPITAL, BOSTON, MASSACHUSETTS, 1915.\*

By HELEN M. WRIGHT, BOSTON,  
Social Worker.

THE worship of Esculapius and Hygeia, which meant so much to the public life of the Greeks, is reflected today in our modern enthusiasm for health of mind and body. Our public has been aroused and has demanded careful inquiry into methods of maintaining good health and of preventing disease. It is manifesting itself not only through such organizations as the National Committee on Mental Hygiene, American Social Hygiene Association, The National Association for the Study and Prevention of Tuberculosis, and the American Medical Association, but also through public health officers, private physicians, hospitals, and dispensaries, public and district nursing associations, school boards, women's clubs, consumers' leagues, boys' and girls'

scout organizations, popular magazines and other publications, and even through smaller agencies, such as mothers' meetings and settlement classes. Through such forces research is being encouraged and its results brought to the attention of the eager populace.

The history of the development of public health inquiries, from the determining of causes to the study of methods of prevention, points out four directions along which investigations have been projected, namely:

(1) examination, (2) history, (3) treatment, and (4) education, each of which involves first of all the study of causes and relations. The study of the causes of the various stages of syphilis belongs to the laboratory and to the clinic. Relative social histories may sometime make a contribution by showing the patient's reactions to his environment during different stages of the disease—but as yet the social aspect of work with these patients has been confined to the four branches of investigation just mentioned. Each is closely related in turn to the patient, his family, and the community.

In the Psychopathic Department of the Boston State Hospital, where the problem of neurosyphilis is a large one, the physicians and laboratory workers are on the alert for new signs, new reactions, and new conditions found in syphilitic patients. As a basis for thorough consideration of a patient, an effort is made to have every person, admitted to the House or Out-Patient Department, given a clinical *examination* and a Wassermann test for the blood. In each case, where possible, a social history<sup>1</sup> is obtained. Those patients showing evidence of syphilis or organic nervous disease, are given a lumbar puncture (the spinal fluid is examined). Through this routine use of the Wassermann test, combined with the other means of identification just noted, and with the extensive use of the lumbar puncture, many cases of syphilis and neurosyphilis have been revealed, which otherwise could not have been recognized. In this way, therefore, *examination* is here used as a method of investigation.

The second method, *that of obtaining history*, through clinical facts and social records, has been the earliest one used by the medical profession and the one most generally employed. The nature of the inquiry,—the particular data sought for,—must perforce, change greatly from year to year.

Because of the lack of adequate appropriations from the State, the high price of salvarsan, which places it beyond the purchasing power of most patients, and the great difficulty in securing salvarsan since the beginning of the war, there have been but a very small number of patients treated. *This salvarsan treatment has been given chiefly to certain neurosyphilitic patients, who have been chosen as an appropriate basis for study.* Here, then, we find our *third method of investigation* applied in the hospital. The fourth, above designated as *education*, is

\* Being S. B. I. Contribution whole number 125 (1915-26). See footnote to Remarks at Neurosyphilis Conference, May 27, 1915, by Abner Post, this number, BOSTON MED. AND SURG. JOUR., page 867.

developed through the confidential relation between the physician in charge and the patient. He it is who draws for the patient the laws of hygiene which he needs for himself and which will guide him in his relations to his associates. The physician also interprets to the patient's family the significance of the disease in each specific case. Through the reactions of both of these groups, the patients as individuals, and their families as related individuals, research workers should learn something in regard to methods to be employed or not to be employed in the propaganda against the spread of syphilis, and indirectly in the propaganda for sex education.

The ideal of education is also embodied in the research work of the hospital. Any worker who may have contributed to some part of the inquiry already made is urged to collect and classify the data secured, and to draw conclusions therefrom.

*The social aspects* of each of these four lines of investigation, as used in this hospital, have developed gradually. Social Service was called upon by the medical staff to perform many supplementary duties which at first seemed unrelated to each other. Very soon, however, they assumed the form of a great social need and pointed out a very definite program whereby Social Service championed not only the cause of the individual patient, but also the cause of research or inquiry.

*The social aspect of examination*, for example, first appeared when some of the following types of cases were referred to the Social Service. The attending physician asked to see the wife and daughter of Mr. X—, a house patient with cerebrospinal syphilis. The wife had been advised to come to the Out-Patient Department, but had refused. It required several letters and visits from the Social Service to locate the family and bring them in for examination. The Wassermann reports were positive for the wife and doubtful for the daughter.

In another case, a child, James, sent to the Out-Patient Department with question of feeble-mindedness was found to have "doubtful Wassermann." After much effort on the part of co-operating social agencies and the Social Service, the three sisters and mother were examined, and the mother was induced to allow James to enter the House for a lumbar puncture. It was found that the patient had cerebrospinal syphilis, one sister had congenital syphilis and the mother had a positive Wassermann reaction of her serum.

Not only was the Social Service called upon to bring in other members of the patient's family,<sup>2</sup> but often the patient himself had to be visited and urged to return for a second Wassermann, when the first was doubtful. In cases where clinical evidence indicated neurosyphilis, it was frequently necessary for the social worker to convince him or his family, of the importance

of his entering the house for observation and lumbar puncture.

There were many instances also of patients with a syphilitic history, whose children had negative blood tests, but showed a poor physical condition, which suggested the need for observation. These children, when examined at this hospital, were referred to the follow-up system, to be asked to return for further examination at the end of a year or six months, according to the physician's advice.

So many of these duties relating to examination were asked of the Social Service that there became evident the need for a system by which every syphilitic patient known to the hospital should receive the attention of a social worker. In October of 1914, a card catalogue<sup>3</sup> of syphilitic patients was introduced, and an effort made to bring to the hospital for examination the patient's spouse, if married, and every member of the patient's family under 18 years of age. A few exceptions were made in certain cases where the patient had a primary infection, and the family had not been exposed. When the patient was a minor, his parents were sent for and his brothers and sisters under 18 years of age.

The work done by this routine system was called "Examination and Prophylaxis for Syphilitic Patients and Their Families."<sup>4</sup> These patients were not registered as Social Service cases, except in particular instances when the worker, on learning the condition of the patient's home, found it necessary to do more than have the family examined, or give them slight service or advice.

In an analysis made of 2050 admissions to the house from April 1, 1914, to April 1, 1915, there were 329 syphilitic patients. One hundred and eleven of these were already known to social agencies, 41 were aided in various ways by the Social Service of this hospital and 69 others were given oversight by the workers interested in the prophylaxis for the family. Through the efforts of this particular branch of the social work, 107 persons were brought into the Out-Patient Department for physical examinations and blood tests. They came from families representing in total 839 living individuals, 251 of whom were under 18 years of age. The 107 persons examined were chiefly those under 18 years of age. As the need for this particular kind of work grew, it was found that it required the full time of a worker, and through the interest of a philanthropic woman, it was possible on May 1, 1915, to engage a special worker for six months.

Although in this routine way, we are reaching the need for the examination of our patients and their families, that of others in the community at large cannot be met under present conditions, both because of the lack of free clinics and because of the still existing prejudice among the people against reporting at a syphilitic clinic.



when in their minds "there is nothing the matter" with them.

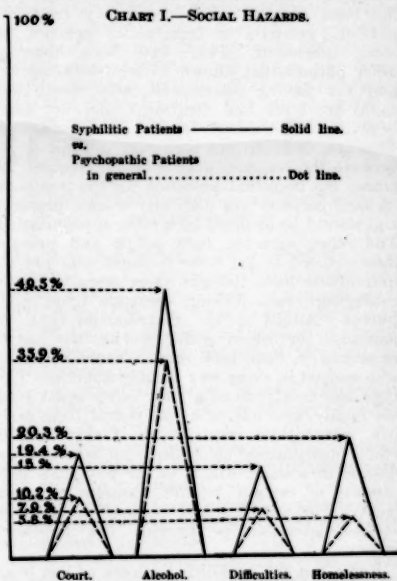
The most natural way to solve this problem would seem to be through the public school physician. If society should think it advisable through the Board of Health or the Public School Board to require the registration of certain physical stigmata, and make a Wassermann test on every child examined, we should then be in a position to know the seriousness and the magnitude of the problem of congenital syphilis.

Returning to the second method of investigation, that of securing histories, we have found that the importance of the social history has been especially emphasized by this hospital. For the first patient coming to the Out-Patient Department, from any family, a long full history has either been taken by the historian or obtained from a social agency acquainted with the case. But for the families of syphilitic patients it seemed wise to have a special form which would record the particular data characterizing each individual member of the family.

For the sake of uniformity a blank questionnaire was adopted, which called for the identifying information and offered suggestions for the individual's story, these suggestions being grouped under the headings of prenatal and developmental history, illnesses, education, work, recreation and character. An effort has been made to secure particularly his traits of character, special gifts or talents and special defects or delinquencies. These special histories have been obtained for the syphilitic patient's spouse and children, and in cases of minor patients, have included the brothers and sisters and parents. It is safe to say that with the exception of those of the parents of minors, this group of histories represents the social records of persons innocently infected and of persons related by birth to infected patients. The information contained should be of value at some later date.

Patients suffering from the effects of recklessly acquired syphilis, are found chiefly in the House, and for them the historian, because of lack of time, has been able to secure but a very small number of outside social histories. This is to be regretted, as it seems particularly important to have a careful and impartial life story of these patients, if one is to obtain any clue as to the particular innate characteristics or social conditions, which contributed to the individual's exposure to the disease.

In the analysis of the 2050 House cases, previously referred to, the small number of records which did have outside social histories showed many discrepancies in the patient's story, especially where he gave a negative history. The social data, therefore, taken from the patient's story as given to his physician only, have probably fallen short of the truth, but a few of the social facts, which this analysis showed in the lives of these 329 syphilis should be of interest nevertheless. (See Chart I.)



Let us call their most common social difficulties hazards, and compare the numbers of those hazards acknowledged by the syphilitic patients with those of some 1200 House patients chosen at random. There were very few of the syphilitic patients who did not have two or more of those difficulties, varying in degree of seriousness. There were 19.4% of them with court records as compared with 10.2% of the patients chosen at random. There were 49.5% of them with an acknowledged history of alcoholism, against 35.9% among the other patients; 15% of the syphilitic patients had a known sex history, which had involved social complications; whereas but 7.9% of the second group were so distinguished. Another hazard which was fairly conspicuous was that of the men and women living apart from their families and alone, designated on the chart under the name of Homelessness. Of these there were 20.3% among the syphilitic patients as compared with 5.8% in the study made of the 1200 House patients chosen at random. If the histories represent these characteristics even in part, it would seem that further inquiry along these lines would be useful to organizations concerned with the alleviation of the social evils.

The social investigation concomitant with treatment has been varied and difficult. The most serious problem has been how to get money to pay for the salvarsan when such treatment has been recommended. But very few patients have acknowledged the ability to pay for themselves. In a few other cases, the Social Service

has been able to secure the money from the patients' relatives or from social agencies, already interested. There have been, however, other patients not known to any social agency and not having relatives to help them, who could not have had treatment had not some benevolent individual come to his assistance. This aid, however, has been very difficult to get because the common answer to the request for money has been that provision for the treatment of such patients was distinctly a state problem, and should be financed by a state appropriation. The relief agencies, both public and private, have refused to aid these patients, and private individuals have thought there were more encouraging cases, making demands upon their purses. Added to the above-named types of patients, for whom social service has had to raise money, have been certain neurosyphilitics who seemed in every way socially hopeless. This type has usually been a man living apart from his family, and having a bad record from early life, intermittent employment, if any, and an added loadstone of alcoholism, but who had the disease in a stage, which, to the physician gave promise of certain definite reactions to treatment. For scientific and research purposes it seemed advisable to provide the necessary money.

From the 329 syphilitic patients of last year, 164 were transferred to hospitals for the insane, and 9 died here. The matter of treatment was thereby simplified, but was still a problem. In the light of the difficulties under which treatment has been secured for the patients, it is not surprising that among 51 house patients advised to have salvarsan only 26 received it. Infected persons found in the patient's family, unless they have shown nervous symptoms, have been referred to other hospitals for treatment.

The treatment of these syphilitic patients, therefore, presents a great public problem.

*Investigation made by the Social Service along educational lines* thus far has been limited. It has endeavored to find the best method of giving instruction to syphilitic patients and their families. So far instruction has been confined almost entirely to families in which the physician has made a first explanation. In this way, but a very small number of persons are reached. Perhaps as the idea of the health center grows, the social service of such an institution as the Psychopathic Hospital will become a community health center so organized that the evening clinic, men's clubs, mothers' meetings, and health conferences and exhibits will be educational centers, where syphilis and allied diseases can be discussed as openly as one now speaks of tuberculosis.

As an educational method of investigation, the keeping of records of these patients, and the collection of data has been considered. As one result, a card has been especially designed for the Prophylaxis System, which shows at a glance

the relation of every member of the patient's family to each other in respect to their age, laboratory tests and social treatment, and providing a ready index to the case file numbers. There were also adopted uniform history blanks for the members of the patients' families coming to the Out-Patient Department, and these have helped to secure a uniform collection of social data for this particular group of patients. Should the public school authorities introduce the special physical examination and Wassermann tests as part of their régime, a portion of these hospital data would be of great value for comparison with the records of the normal children in the schools. But as yet our work is so young that studies made from our data can be used only as sign posts.

Just one more reference to the study of the 329 syphilitic house patients of last year, as an illustration of the educational method of investigation. It gives the classification of these patients according to their diagnoses. (See Chart II.) Those found to have general paresis, cerebrospinal syphilis, tabes and allied diseases, formed 40.4% of the total and 79% of them were men. Those diagnosed as manic-depressive psychosis, senile dementia, drug psychoses, or other psychoses not noted below, formed 16.1% of the whole, of which 54% were women. The alcoholic and the dementia praecox groups were next in proportion, each with a percentage of 11. Among the alcoholics, the male predominated with 54%, while in the dementia praecox group the female predominated with a percentage of 64. There were 9.4% feeble-minded and defective delinquent, 58% being female. The not-insane group was 8.2%—51.8% of which were men. The congenital syphilitic group of 3.7% had 75% boys.

If an analysis of the social histories of these syphilitic patients were made and the data classified and arranged in groups according to diagnoses as above, and if these data were compared with corresponding groups from the histories of non-syphilitics, some enlightening similarities and dissimilarities in character, traits, and conduct ought to be found.

CHART II.—HOUSE PATIENTS.

2050 Admissions—329 Syphilitic Patients.

Diagnosis	Syphilitics	Predominating Sex
General paresis .....	40.4	M. 79
Cerebrospinal syphilis .....		
Tabes .....		
Manic depressive .....		
Senile dementia .....	16.1	F. 60.3
Unclassified .....		
Alcoholic psychoses .....	11.2	M. 54
Acute and chronic alcohol .....		
Dementia praecox .....	11	F. 64
Feeble-minded .....	9.4	F. 58
Defective delinquent .....		
Not insane .....	8.2	M. 51.8
Congenital syphilis .....	3.7	Boy 75
Juvenile paresis .....		

By means of the four general methods of investigation, and their more detailed subdivisions, as used at the Psychopathic Hospital, an attempt is being made to meet the problem of syphilis as it is related to nervous and mental patients, their families and the community. But without broader methods of investigation the efficiency of this work is limited. The need for certain extensive methods, whereby the general state and city institutions will cooperate with the more specialized institutions, has already been referred to. There are other methods which will contribute to a greater knowledge of the disease and its relation to society.

The reporting of venereal disease to State or Municipal Boards of Health, either by statute, or by rule of the Board, is decidedly a step in advance. There are now at least eleven states in the Union which have adopted such a system. Recognizing the fact that public sentiment has not yet asked for it and that the requirements by rulings without penalty may be generally ignored, Vermont has recently passed a law requiring the reporting of venereal disease, by name, sex, age and address, by any physician who treats or prescribes for a case, and providing a penalty not to exceed \$200 fine for failure to report. Through the repeated efforts of the various states and through their failures there will undoubtedly evolve a general system by which venereal disease will be detected, registered and controlled as tuberculosis now is.

Public boards will also provide appropriations whereby therapy for venereal disease will be put within the reach of those who can pay little or nothing for it. Smallpox and tuberculosis have been so dealt with.

All who are promoting social welfare or health measures recognize the importance of securing intelligent cooperation from the people rather than relying entirely upon the enforcement of legislative and other measures.

For this reason public exhibits, clinics, meetings and conferences, which will not only be open to the people, but will seek them in their own localities, will all help in the general appreciation of the problem of syphilis and allied diseases, so vitally related to the family life of our country.

#### SUMMARY OF METHODS OF INVESTIGATION USED AT THE PSYCHOPATHIC HOSPITAL.

1. A free clinic where a physical examination and blood tests are given.
2. A routine follow-up system for all syphilitic patients, including examination and prophylaxis for the members of their families.
3. A uniform method of recording families of syphilitic patients by card catalogue.
4. A special history blank for the families of syphilis whereby uniform data can be collected.
5. A social worker who investigates the cases of syphilitic patients and arranges payment for salvarsan treatment, when necessary.

6. Patients with active syphilitic infections have been instructed to safeguard their families.

7. Instruction has been given to patients and their families regarding preventive and therapeutic measures and an effort made to show them the importance of keeping children of syphilitic parents under medical observation.

8. Study of problems relating to syphilitic patients has been encouraged.

#### SOME RECOMMENDATIONS FOR BROADER METHODS OF INVESTIGATION.

1. A system by which every syphilitic House patient at the Psychopathic Hospital shall have a social history obtained from outside sources.

2. The use of the Wassermann test in suitable cases and a standardized method of recording physical stigmata for all children in the public schools.

3. A public (Board of Health) registration of all persons having a history of syphilis, either by name or by number.

4. A state appropriation provided whereby salvarsan treatment may be used for therapeutic and research purposes.

5. Methods of providing public presentations of scientific data in form which the lay public can interpret for itself.

6. A Health Center, including evening clinics, men and women's clubs, conferences, and exhibits where information under medical supervision, may be given regarding syphilis, and allied diseases, as well as other mental and social hygiene questions.

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- \* See Appendix B.
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- \* See Appendix D.

(To be continued.)

#### BLADDER TUMORS IN THE YOUNG.\*

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THE occurrence of bladder tumors in relation to tumors of other organs has been variously estimated as from .39% to .76%. It will readily be seen when studying the series of reported cases that neoplasms occurring in the young make up but a small percentage of the cases.

In the carefully prepared series of Albarran<sup>1</sup> of 252 cases there were but 6 occurring from one to ten years of age, 3 from ten to twenty and 16 from twenty to thirty. In a series of 114 cases

\* Read before the American Urological Association at the annual meeting in Baltimore, April, 1915, as a part of the Symposium on Bladder Tumors.

[For the purpose of this symposium the term "young" is interpreted to mean growths occurring in patients under 30 years of age.]

of bladder tumor including cancer from the Mayo Clinic reported by Judd,<sup>2</sup> there was but one case under ten, which case should not be considered as a primary bladder tumor, being an angioma involving the rectum and bladder. There were 3 cases between ten and twenty and 5 between 20 and 30 years. In 62 cases of tumor of the bladder from the records of the Massachusetts General Hospital from 1879 to February, 1915, there is only one case occurring in a patient below twenty. This was a case of sarcoma in a boy of sixteen. There were 4 cases between twenty and thirty. At the same institution in 129 cases of cancer involving the bladder, there was one case of adeno-carcinoma in a girl of eighteen, one case of epithelioma in a woman of twenty-seven and an inoperable carcinoma of the bladder in a man of thirty, the last case being open to doubt as diagnosis was by cystoscopy. Judd reports a case of carcinoma in a patient of seventeen.

It would seem therefore for the purposes of this paper that the selection of thirty as an arbitrary limit for growths in the young is not unreasonable as by far the greater number of cases occur after that time. This limit falls naturally into a further subdivision by reason of the pathology of bladder tumors, one group including the decades from 1 to 10 and 10 to 20 years during which the growths met with are practically always of the connective tissue and muscular type as sarcoma, fibro-sarcoma, myoma, etc; the second group consisting of the decade from 20 to 30 years when all types of growth are met with.

The first group, including as it does infants and children and having a different symptomatology and pathology, is the one with which we are principally concerned and really represents bladder tumors in the young.

Group two may be regarded as being made up of sporadic and unusual cases resembling in symptoms and course the lesions met with later in life and are unusual only because they are comparatively few in number.

Bladder growths in infants and children are distinctly rare and little is to be found about them in the text books on pediatrics and the surgery of children. The literature previous to 1900 was more or less scattered and consisted of case reports and a few articles, theses and series of cases. In that year appeared in the *Archives de Médecine des Enfants* an original article by Concetti,<sup>3</sup> of Rome called, "Les tumeurs malignes de la vessie chez les enfants." He reports a case in a female child of 11 months and gives a general description of the subject based on a study of 41 other cases collected from literature. A later contribution is made in 1905 by Steffen<sup>4</sup> in a book entitled "Die Malignen Geschwülste im Kindesalter." He also gives a general description of the subject based on abstracts of 32 cases collected from literature. The conclusions reached by these two are very similar

and their tables contain a number of the same cases. Since this time has appeared an Inaugural Dissertation by Hüsler,<sup>5</sup> Basle, 1905; some references in general papers on bladder tumors and some case reports. From the study of these articles certain points stand out in regard to these growths in children. In the first place the great majority are met with during the first five years of life. In Concetti's series there were 2 during the first year, 10 from the first to the second, 7 from the second to the third year, 5 from the third to the fourth and 5 from the fourth to the fifth. After that, the number falls to not more than one or two for each year up to seventeen.

In Steffen's series, 20 cases occurred from the first to the fourth year and 8 from the fourth to the twelfth. In an analysis by Munves<sup>14</sup> of 98 cases of sarcoma of the bladder there were 19 cases below the age of twenty and of these 10 were from one to five years and 5 from five to ten years old. According to the former the great preponderance of cases appearing so early in life is strongly in favor of their embryonic origin. The pathology of Concetti's cases is of interest as bearing out the fact that epithelial tumors are not met with at this age. In this connection Albarran reports 198 epithelial tumors without finding one under twenty years of age.

Concetti's cases were divided as follows:

Sarcoma .....	13
Lympho-sarcoma .....	2
Fibro-sarcoma .....	7
Myxoma .....	8
Myxo-sarcoma .....	2
Fibro-myoma .....	6
Dermoid cyst .....	1
Undetermined .....	3

All of these tumors are of connective tissues type and the large majority are malignant. In only 6, the fibromyoma, is there a question of their being benign.

Targett<sup>6</sup> in an article on sarcoma of the bladder in children states that all these polypoid growths which are attached to the mucous coat of the bladder and variously described as mucous polyp, fibro-sarcoma, fibro-myxoma, myxo-sarcoma and the like should be described as sarcoma. The vast majority of primary growths of the bladder in children are polypoid in type, that is, they are rounded elevations of the mucous membrane with a more or less constricted base or pedicle and often arranged in clusters. Their macroscopical appearance may differ, also microscopically the proportions of fibrous, cellular or other elements may vary but they are pathologically better considered under one group, as clinically they certainly have one point in common, being almost uniformly fatal.

I say almost because of the recent report of a case by Robitschek<sup>7</sup> of a boy 4½ years of age in whom he had excised a tumor of the bladder two years before; there had been recurrence during that time. The pathological diagnosis was



"telangiectic fibrous polypus." Koll<sup>1</sup> also reports a simple polyp occurring in a child of 13 months cured by operation. A case reported by Shattuck<sup>2</sup> is of interest in this connection being the bladder of a 2 year old child showing multiple polypi which were histologically composed of striated muscle. The case was thought to be congenital. However, these cases are potentially if not pathologically malignant.

These tumors always start from the mucous or submucous coats of the bladder, generally from the trigone between the ureteric orifice or near to the so-called neck of the bladder or vesical outlet. They may be single or multiple, generally the latter, with a long or short pedicle, or they may be sessile in character. They vary greatly in size and may have a lobulated appearance like a bunch of grapes and at times may fill the entire bladder.

They tend to recur very rapidly after removal<sup>3</sup> but do not form metastases; they may directly invade the surrounding structures as the vulva, vagina, uterus, prostate or abdominal wall. They have a tendency to infiltrate the mucous and submucous coats not only of the bladder but of the ureter as well, causing considerable thickening of the bladder wall. As they almost always interfere with micturition by blocking the urethra, muscular hypertrophy of the bladder is present, also as the ureteric orifices are often involved the usual chain of back pressure symptoms with dilatation of the ureter and kidney pelvis are met with, subsequent infection often occurring with fatal results. Death may also be due to exhaustion, cachexia or anaemia. The first thing generally noticed is some disturbance of micturition, pain, tenesmus, sudden retention or incontinence. There is often pain in the lower abdomen and what is very constantly described in the case reports as severe straining on micturition. The examination of the urine is at first negative, later signs of cystitis are present and sometimes bits of tumor have been found. As these growths do not tend to ulcerate at first, the characteristic hematuria of tumor is often absent, although when present, particularly following instrumentation, is very suggestive.

The symptoms are often suggestive of calculus, in male children pain being referred to the glans penis and many instances of elongation of the prepuce are recorded due to the attempts to get relief from traction upon the organ.

Irregularities in the contour of the bladder wall have in some instance been detected with a searcher and the diagnosis made in this way; also, incrustations of the growth have been mistaken for stone, as in adults.

In female children the tumor or parts of it may be forced out of the urethra by the straining on micturition combined with the pressure of an over distended bladder and appear as a mass in the vulva; a number of such cases are reported. Here the diagnosis should not be difficult.

Care, of course, must be taken to differentiate it from growths of the vagina or uterus which occasionally occur. Examination under an anæsthetic will be necessary and will settle the question.

Occasionally the diagnosis of bladder tumor will be made when the symptoms are due to some extra vesical condition making pressure on traction on the bladder and causing urinary symptoms which can only be discovered at operation. I have found several such cases in the records of the Children's Hospital in Boston. One a tumor of the space of Retzius and perineum, causing marked urinary symptoms; in another a tumor apparently starting from the prostate and involving the side of the pelvis, causing retention. Still another being an infection of the prevesical space.

Diagnosis in the earlier stages on the whole is difficult. Some of the older children it is of course possible to cystoscope under an anæsthetic. But in the young male children this can not be done. A child's bladder is readily palpable and a mass above the pubis with pain and urinary symptoms in the absence of congenital structure should excite suspicion.

At this point, I think it will be of interest to give the clinical histories of three of the reported cases which are selected as being typical and illustrate well certain points.

CASE 1. A case reported by T. A. Southam<sup>4</sup> in the *British Medical Journal*, July, 1894, of a boy of nine, good health till one year previously when he had an attack of hematuria lasting 24 hours and associated with pain and frequency. This disappeared and he was well for several months when he began to have incontinence at night and increased frequency during the day. Micturition was accompanied by severe straining, pain at the end of the penis and at times a little terminal hematuria. Prepuce very long from traction. Rectal examination slight tenderness at bladder base. A rough area on left side of bladder neck was felt with a searcher but no calculus. A perineal operation was performed as a new growth was suspected. A sessile growth the size of a quarter was removed with a curette from the left side of the bladder. This gave relief for about 5 months when there was a return of the symptoms. A second operation was performed but the patient failed and died 4 months later. Pathological examination showed a round and spindle cell sarcoma.

CASE 2. Same author and reference. A boy of six years thought to have retention of urine from a calculus impacted in urethra. There was incontinence, bladder distended to the umbilicus and some obstruction to catheterization which felt "rough."

For nine months previously there had been increased frequency with "straining" and later pain and incontinence but no bleeding. Under chloroform the bladder was found greatly distended, a catheter was passed with difficulty but only two ounces of urine obtained which had no effect on the size of the tumor. Irrigation brought away fragments of the growth the size of a small pea. On

opening the bladder through a suprapubic incision masses of grey translucent polypoid growth varying in size from a pea to a pigeon's egg presented having very much the appearance of a bunch of grapes. Some of these were removed but the growth was so extensive the attempt was abandoned. The patient died on the second day after operation.

Post mortem. Growth found to be mixed sarcoma springing from the mucosa and submucosa but limited to the bladder, almost the entire mucous membrane was involved. A polyp extends into the urethra, blocking it. The kidney pelves were dilated.

The first of these cases illustrates how the symptoms may resemble those of calculus. And the second, how a tumor may simulate a full bladder with retention and overflow, particularly where there is obstruction to catheterization still more resembling stone, which is a more common cause of retention in male children than is tumor.

CASE 3. Reported by Sims<sup>22</sup> in the *Medical Record*, April 1896 illustrates another type. The patient was a colored girl of 3 years of age. For three days she had passed no urine except a little that dribbled. For the past 18 months she had much difficulty in emptying bladder and bowels. There was marked straining. Three months ago swelling appeared in lower abdomen. Examination showed a prolapsed rectum and a mass the size of the finger presenting at the vaginal outlet. The bladder was distended. A catheter was passed with difficulty and the abdominal tumor disappeared on emptying the bladder. As the child was in extremely poor condition, no operation was done at that time. Ten days later the mass slipped back into the bladder of itself and later some of it sloughed off and was passed, after which she was better for a time. Soon, however, obstruction returned and the tumor prolapsed again. Immediate operation was done by dilating the urethra, pulling down the mass and removing it with scissors from the anterior wall where it was attached. The mass weighed 3 ounces and is described as a myxo-fibroma. There is no further report.

Another curious case is reported by Savony,<sup>23</sup> an infant of 13 months, symptoms of stone, evident pain on micturition, an abscess developed in the abdominal wall, extending from pubes to umbilicus which on being opened discharged urine. Autopsy disclosed a large soft pedunculated tumor occluding the urethra. The urachus had become dilated by back pressure, the abscess connecting through it with the bladder.

The prognosis in cases of tumor in children is extremely bad. In the series of Concetti, the sarcoma, 32 in number, all died. Of the so-called benign cases, 7 in number, 3 died without operation, one of anaemia, one of pyelonephritis and one of uremia, so these tumors were clinically malignant if not pathologically so. Four were said to be cured by operation. One case of Bryant<sup>14</sup> was described as a small papilloma which was removed by the eye of a catheter from a girl 3 years old, said to be well 11 years later. The second case of Gussenbauer,<sup>15</sup> a male patient of

12, no further account except the operative recovery is given; a third, the case of Barth in Albaran's<sup>1</sup> table, a male of 17 showed a growth in the bladder 2 months after operation. These cases are very unconvincing. The fourth reported by Albaran, a male patient of 16, said to be well 2 years after the removal of a long pedicled polyp described as a fibro-myoma. The case from the Massachusetts General Hospital records may also be cited, a boy of 16 from whom a fibro-myo-sarcoma was removed. Well one year after operation, no further report.

Of Concetti's cases, 19 were operated upon, of these 9 died of rapid recurrence, 3 of peritonitis, 2 of shock, the others of infection of the urinary tract, cachexia, etc.

The operative measures were suprapubic cystotomy, perineal cystotomy and in female children dilating the urethra, pulling down the tumor and either ligating or curetting the growth away. The latter procedure being followed by rapid recurrence.

To sum up, vesical tumors in children are a very great rarity. The great majority appear before the fifth year. They are of the connective tissue type and are clinically and pathologically malignant except in rare instances. Difficulties of micturition are generally the earliest symptom; in the absence of stricture they should excite suspicion. Straining is common. Early diagnosis and operation offer the only hope of recovery. With the more exact means of diagnosis now at our command it is to be hoped that this can be accomplished.

In regard to the second group of cases occurring in the decade from 20 to 30 years of age: During this period both epithelial and connective tissue types are met, in 16 cases from Albaran's table between these ages, 8 were epithelial and 8 were connective tissue type. The sex distribution is interesting here, there being 11 male and 5 female. Of the 8 epithelial growths, 7 were male and 1 female. Of the connective tissue type, there were 4 each. These coincide with the cases occurring late in life in which the epithelial types predominate and males are affected about 3 to 1. In the connective tissue growth in children the sexes are affected about evenly.

In the series of 114 cases from the Mayo Clinic, only 5 occurred during this decade. In a paper from the same clinic entitled "Results in the Treatment of Tumors of the Urinary Bladder,"<sup>24</sup> I found the report of 4 cases aged 20, 22, 27, and 29 which were operated upon and all have since died.

Of the 62 cases of tumor from the Massachusetts General Hospital records, there were but 4 during this period. All of these made operative recoveries, in 3 the further history is unknown. The fourth case, a woman of 29, from whom a tumor size of a walnut was removed through the urethra, died 13 years later of tuberculosis of the lungs. Unfortunately there was no pathological report on the specimen, but the clinical history suggests papilloma.

In a series of 24 cases of tumor of the bladder, Pilcher<sup>18</sup> reports one case of a girl 20 with recurring malignant disease of the bladder, apparently successfully treated with the D'Arsonval current. Bremmerrnan<sup>19</sup> reports a case of 24 years of age in which the papilloma was successfully treated by fulguration.

There are occasional other cases reported, but they are not very common and the results of treatment in the majority have been highly unsatisfactory.

Before closing, I wish to say a word in regard to the occurrence of cancer and of cancer of the bladder in the young. Hadda<sup>20</sup> in an article entitled "Das Blasenkarzinom im jugendlichen Alter (unter 20 Jahren)" gives the following. Of 7330 cases of carcinoma involving all locations only 31 or .42% occurred in individuals under 20 and 181 or 2.57% between 20 and 30. Of 5006 cases of carcinoma 48 or .96% were of the bladder and none were under 20 years of age.

In this connection the following from the Massachusetts General Hospital records is of interest. In 129 cases of carcinoma of or involving the bladder, I found one case of adenocarcinoma of the rectum in a girl of 17 which had invaded the bladder secondarily. This of course is not to be regarded as a bladder growth, but is young for the occurrence of cancer.

Another case of primary cancer in a girl of 18 which was described by the pathologist as epidermoid cancer, which I think is of sufficient interest to put on record. She had profuse hematuria for 8 weeks. Cystoscopy showed a sessile tumor on the posterior wall of the bladder the size of a grape. The patient was very anemic, so much so that a preliminary direct blood transfusion was done. This was followed in 3 days by a transperitoneal cystotomy August 2, 1912, with removal of the tumor, including the entire thickness of the bladder wall. She made a good operative recovery. Note one year later, September 24, 1913, says well for 6 months, for last 6 months loss of weight and strength. General examination negative except for 3 months' pregnancy. Cystoscopy showed normal bladder, some urinary frequency. April, 1915, patient states that she went through pregnancy successfully, no trouble except for occasional pain in suprapubic wound.

Between the ages of 20 and 30, I find 2 cases. One a woman of 27 who died 13 days after a curettage of the bladder done as a palliative measure. The pathological diagnosis was epithelioma.

The second was a man of 30 who had an inoperable cancer of the bladder, diagnosis was made by cystoscopy and rectal palpation which showed a hard mass at bladder base. This case is open to doubt as there was no pathological examination, but the case was clinically malignant.

A case of carcinoma occurring at the age of 17 is reported from the Mayo Clinic but no details are given.

It will be seen that cancer of the bladder under 30 is a very rare condition.

On the whole, tumors of the bladder occurring in the young, while fortunately rare, are nevertheless when met with, most unsatisfactory both from the standpoint of diagnosis and treatment.

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## A STUDY OF KROENIG'S ISTHMUS IN PULMONARY TUBERCULOSIS.\*

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THE object of the following study was to determine, if possible, what clinical significance there might be in the disparity of physical signs at the apices as bearing on tuberculous lesions. In studying frozen sections of human subjects, Fetterolf and Norris<sup>1</sup> found a distinct difference in the apices of the lungs, the right being regularly less developed. They concluded that this difference was due to encroachment of the large blood vessels of the neck and the relation of the trachea. They found moreover that this difference occurred in both right and left handed individuals and in the absence of any discoverable pathological changes in the lungs. It seemed of interest therefore, to make a special study of the physical signs at the apices in the presence of tuberculous lesions, keeping these anatomical differences in mind, for the reason that more or less diagnostic significance has been ascribed to disparity of physical signs, especially that of the apical percussion fields. The literature of the subject is probably so familiar as to make the citing of references superfluous. It might be of interest, however, to recall that Bonney<sup>2</sup> mentions instances where the apical percussion field on the right side was distinctly contracted without any discoverable tuberculous changes on that side. It might be pertinent to refer here also to Kroenig's later views regarding nasal obstruction and consequent "collapse induration"<sup>3</sup> as a cause of altered physical signs at the apex.

The material for this investigation consisted of 129 clinical cases admitted to the Barlow Sanatorium since May, 1913, and of 21 controls, with four exceptions pupil nurses who had been examined carefully as a matter of routine when entering upon their service at the sanatorium.

\* Read before the clinical section of the National Association for the Study and Prevention of Tuberculosis, held at Seattle, January, 1915.

In the case of the pupil nurses it would be safe to assume that they were well on admission to the training school of a general hospital. They had moreover been able to perform their duties for a period of one year or more without impairment of health. They cannot be accepted as absolute controls, naturally, for the reason that a previous infection with tubercle bacilli cannot be positively excluded. Those in whom a tuberculous implantation seemed at all probable were not considered.

In making these studies, the determination of Kroenig's isthmus was selected as the index of any existing disparity, because the difference could be recorded graphically and the figures in centimeters noted on the case charts. In this way the results obtained in a series of cases could be tabulated more readily, for the sake of comparison. Kroenig's method was given preference over Goldscheider's because of less difficult technic and consequent greater accuracy. The measurements in the clinical cases were all made at the time of the first physical examination after admission. The area of transmitted pulmonary resonance was outlined with skin pencil as far as the clavicle in front and the spine of the scapula behind. These outlines were transcribed as accurately as possible on the case charts and the actual measurements in centimeters noted. In those cases where on account of considerable retraction of the apex the isthmus was obliterated and the area of pulmonary resonance did not reach the border of the trapezius muscle, the isthmus was noted as "O," regardless of the highest point at which pulmonary resonance could be noted.

For the sake of convenience in studying the results, the cases were divided into groups. The first group comprises cases with predominant right sided lesions, the second group, cases with predominant left sided lesions, and the third group cases with more or less extensive bilateral lesions. Taking up the first group we find that out of 44 cases with predominant right sided lesions, the isthmus was narrower on the right side in 43. In three cases there was complete obliteration of the isthmus on account of retraction of the lung. In 18 cases with predominant left sided lesions the isthmus was narrower on the left side only in 4, and in these there was retraction of the lung with complete obliteration of the isthmus on account of extensive cavity formation. The third group composed of 67 cases with lesions distributed fairly equally over both sides showed narrowing of the isthmus on the left side only in one case, here due to an old fibrous lesion. We find, therefore, that out of 129 clinical cases the isthmus was narrower on the right side in 123 or 95.35%.

Among the 21 controls we find a narrower isthmus on the right side in 18 or 86.6%. On account of the disproportion of controls to clinical cases these results must be interpreted carefully.

Of the series of clinical cases four died at the sanatorium and came to autopsy. It will be of interest to compare the clinical findings with the anatomical changes and to study the relation of both to the physical signs at the apices. In order to bring out these features more distinctly, the autopsy findings in these four cases have been considered more in detail.

CASE 1. No. 613. Isthmus right side 2.5 cm.; left 5 cm. *Clinical Diagnosis:* Disseminated general miliary tuberculosis; chronic tuberculosis with cavity, right apex. *Necropsy:* anatomical diagnosis; disseminated miliary tuberculosis both lungs; chronic tuberculosis both upper lobes; left apex fibrous nodule retraction and puckering of pleura, adhesions; disseminated miliary tuberculosis upper and lower lobe. Right lung: disseminated miliary tuberculosis upper and lower lobe; fibrocaseous consolidation apex with medium sized multilocular cavity, adhesions and thickening of pleura.

CASE 2. No. 641. Isthmus right side 4 cm.; left side 7 cm. *Clinical Diagnosis:* Fibrocaseous tuberculosis both lungs, extensive thickening and adhesions of pleura; cavity right apex; cavity or recent consolidation left upper. *Necropsy:* anatomical diagnosis: fibrocaseous tuberculosis involving nearly all of both lungs. Left lung partial consolidation of upper lobe, with three areas of marked consolidation, no cavities, no adhesions. Right lung: dense adhesions, fibrocaseous tuberculosis consolidation of upper lobe, with medium sized multilocular cavity at apex; marked infiltration of lower lobe, with fresh area of consolidation and two small cavities.

CASE 3. No. 648. Isthmus right side O, left side 5 cm. *Clinical Diagnosis:* Fibrocaseous tuberculosis right upper lobe with cavity, infiltration right lower lobe; infiltration and partial consolidation of left upper lobe. *Necropsy:* Anatomical diagnosis: Left lung, fibrocaseous consolidation apex, small cavity, old adhesions; lower lobe, infiltration and small fibrous nodule near apex. Right lung, extensive adhesions, markedly thickened pleura, fibrocaseous consolidation, upper lobe, marked induration apex, medium sized cavity, showing fibrous wall and trabeculation; fibrocaseous consolidation, middle lobe and apex of lower lobe, with small cavity, lower lobe.

CASE 4. No. 696. Isthmus right side O, left side 4.5 cm. *Clinical Diagnosis:* Fibrocaseous tuberculosis both lungs; cavity both apices. *Necropsy:* anatomical diagnosis: fibrocaseous tuberculosis involving nearly all of both lungs. Left apex large multilocular cavity, adhesions and thickening of pleura. Right apex; large multilocular cavity, adhesions and thickening of pleura.

A study of the autopsy findings shows therefore, that although in all of these four cases there were distinct lesions at the left apex, there was not a corresponding change in Kroenig's Isthmus on the left side.

The findings in both the clinical cases and autopsies would justify the belief, therefore, that in most instances the differences in measurements of the apical percussion fields could not be due to tuberculous changes alone. It would



be difficult to explain the almost constant narrowing of the isthmus on the right side regardless of the side of more extensive lesions. It may be granted that implantation does occur more frequently on the right side, at or near the apex. Some of the causes for this predisposition have been cleared up by Baumeister's experiments upon animals. It is only reasonable to assume that some changes at the right apex are the result of former tuberculous implantations, the lesions having become healed, and being no longer active at the time of observation. If this were true however in all cases, we ought to meet with corresponding changes more frequently on the left side than we do, especially in the presence of more extensive or predominant lesions on the left side. It is exceptional to find lesions limited to the right side in active cases, (in our tabulations the cases were classified only as to predominant lesions), infection usually extends to the left side quite early in the course of the disease and greater portions of the left lung may become involved while the process on the right side may become quiescent or fully arrested. Under such circumstances it would be reasonable to expect changes at the left apex more frequently, assuming that such changes do occur secondarily as a result of tuberculous inflammation. It is to be noted also that the disparity of the isthmus was no more frequent relatively in open active cases than in active, and only slightly more frequent than in controls. It is only in cases with very extensive lesions and marked contraction of the lung that there was a corresponding narrowing of Kroenig's isthmus on the same side.

TABULATION OF RESULTS OBTAINED FROM MEASUREMENT OF KROENIG'S ISTHMUS IN 129 CASES OF PULMONARY TUBERCULOSIS AND 21 CONTROLS (NORMAL INDIVIDUALS).

	ISTHMUS			
	NARROWER	SAME		
	Right Side.	Left Side.	Both Sides.	
Cases with right-sided lesions	44	43	1	0
Cases with left-sided lesions	13	14	4	0
Cases with bilateral lesions	67	66	1	0
Total number of cases	129	123	6	0
Controls (normal individuals)	21	18	1	2

NOTE: Among the controls the difference in measurements of Kroenig's Isthmus varied from 0.5 cm. to 4 cm.

In view of our findings the conclusion might be drawn therefore: that unless the disparity of the apical percussion field, as expressed in terms of Kroenig's isthmus is very marked, it does not necessarily point toward tuberculosis of the corresponding side; that such disparity is also of much less significance on the right side than it is on the left; and that in most instances the disparity of the apical percussion fields is simply due to anatomical changes, unrelated to tuberculosis.

## LITERATURE.

- <sup>1</sup> Fetterolf and Norris: Seventh Report, Philip's Institute, University of Pennsylvania, 1913, Sect. XVI, p. 29.  
<sup>2</sup> Honney: Tuberculosis, New York, 1906, p. 284.  
<sup>3</sup> Kroenig: Deutsche Klinik, 21, p. 634.  
<sup>4</sup> Baumeister: Die Entstehung der menschlichen Phthise, Berlin, 1914.

## INTUSSUSCEPTION.

BY WILLIAM E. LADD, M.D., F.A.C.S., BOSTON.

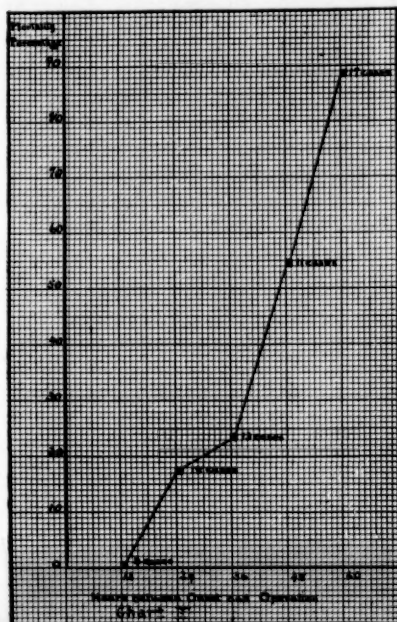
WITHOUT prompt surgical intervention, intussusception is one of the most fatal diseases of infancy and one to which perhaps enough attention has not been paid in this community. The history of the Children's Hospital in connection with this disease is very instructive and interesting.

Prior to 1908, this hospital had had eight cases operated on with one recovery. At the same date, at the Infants' Hospital, there had been eight cases with one recovery, and at the Massachusetts General Hospital, ten cases of infantile intussusception with one recovery. These figures show clearly two striking facts; one, the remarkably small number of cases referred for surgical aid in this community, and the other, the high mortality.

Since 1908, however, the situation has changed slightly. There have been in the Children's Hospital sixty-three cases operated on. Of these, thirty-two have recovered, and thirty-one have died, giving a mortality of just under 49%. Of the last nineteen cases operated on, fifteen have recovered and four have died, showing a mortality of 21%.

This is a considerable improvement to have taken place in seven years, but there is still room for more. But perhaps more striking still are the figures showing the mortality of the operation when performed at a varying number of hours after the onset of symptoms. In this series of sixty-three cases there were four cases operated on at the end of twelve hours with no mortality; eighteen cases operated on at the end of twenty-four hours with three deaths, a mortality of 16.66%; thirteen cases operated on at the end of thirty-six hours with three deaths, a mortality of 54%; and seventeen cases operated on after sixty hours or more show two recoveries and fifteen deaths, a mortality of 88%. (See Chart I.) Bearing these figures in mind, it is obvious, that the most essential requisite for avoiding a high mortality is to make the diagnosis early and resort to operation at once. To make an early diagnosis in intussusception is not as a rule a difficult thing to do providing one is on the lookout for it.

In this series of sixty-three cases, forty-nine occurred during the first year of life; eight during the second; and the remaining six were scattered between the ages of three and nine. One



should be most on the "qui vive," therefore, in infants under two years of age. Another fact to be borne in mind is that intussusception occurs much more frequently in healthy and well nourished babies than in those that are poorly developed and nourished. Occasionally the bowel invaginates in the course of an infectious diarrhoea or during purpura; but such cases are the exceptions, not the rule, and one should remember to be most expectant of finding intussusception in a healthy baby under two years of age. In making the diagnosis, particular attention should always be paid to the parent's story, which in our experience and in that of other surgeons in various parts of the world, is very typical. The mother will usually say that the baby having been perfectly well was suddenly taken with an attack of pain, turned pale, and soon afterward vomited. Following this the baby had periods of apparently being almost well, varied by attacks of pain with crying out and drawing up the legs. A normal looking stool was then passed but after five or six hours a stool composed almost wholly of blood was passed and the baby vomited several times and refused all food. A story of this sort is almost sufficient data for a diagnosis of intussusception. But it is extraordinary how often we still receive babies who have had this typical story and for whom the doctor called has ordered a dose of castor oil or other cathartic and assured the mother the baby would

be all right in a day or two. The baby, of course, gets progressively worse and comes to us in *extremis* at the end of two or three days. The only way I can explain this happening so frequently is that during the first twelve to twenty-four hours, these patients look perfectly well, except during their paroxysms of pain, when peristalsis is active trying to push the mass along. If the doctor sees a healthy looking baby between pains and does not pay sufficient attention to the mother's story and does not make a careful examination, he will necessarily miss the diagnosis and by delay remove the best chance for the baby's recovery. During the first twelve hours the physical examination of the abdomen will reveal a mass in the right lower quadrant, under the right costal border in the mid-line at the level of the umbilicus, or in the left upper quadrant according to how far the bowel has invaginated. At this period of the disease the mass is usually easy to feel, owing to the fact that little distention has developed. The mass is usually slightly movable, which is its most typical feature, its size and shape being dependent upon the amount of bowel invaginated and varying considerably. The only time when the mass is hard to feel is when it is situated under the right or left costal border at the end of thirty-six or forty-eight hours, when there is marked distention present. In such cases the x-ray has a limited field of usefulness. After bismuth injection, the intussusceptum will show as a cervix-like projection into the bismuth in the colon below it. Later on when the mass has progressed to the sigmoid or rectum, it has attained such large proportions that it is easy to feel either by abdomen or by rectum in spite of much distention.

It is now after forty-eight hours that the baby's signs and symptoms correspond with the description given in the older text-books of medicine and surgery. The sunken eyes, the distended abdomen, the mass in the rectum, etc. If one waits for these signs, one has waited until the baby's chance for recovery has disappeared.

As to the operation: The incision should be made over the right rectus when the tumor is in the right side of the abdomen. When the tumor is in the left of the abdomen, the incision should be made in the mid-line and run high enough above the umbilicus to enable one to reach the hepatic and splenic flexures easily. The mass having been located, reduction is commenced intra-abdominally by pushing back the advancing point between the middle and forefinger. This is continued as far as it goes easily, when the mass is delivered into the wound and the reduction continued extra-abdominally. The last part of the reduction is always the most difficult, usually due to oedema. By pressure on the tumor, the oedema can frequently be diminished sufficiently to allow the completion of reduction in a case that appears at first hopeless. Adhesions, frequently spoken of as preventing reduction, as a matter of fact very rarely exist. Clubbe,

who has had perhaps as large an experience as anyone with this disease states that he has never seen any real adhesions. I have seen in one case in which I performed a resection very dense adhesions, but that is the only time I have ever seen any. Oedema, gangrene, and swelling of the mesenteric glands are the three conditions which sometimes makes reduction impossible. In such cases resection has to be resorted to, but when this becomes necessary the hope is forlorn. Clubbe reports one or two successful cases and there are one or two others in the literature. We have never had a successful case here, though several have withstood the operation well only to die a day or so later from a pre-existing toxæmia. The after-care consists in combating shock, irrigation of the colon to reduce toxæmia and proper feeding started soon after the operation.

In any given community where cases are brought to the surgeon late, that surgeon is bound to have a high mortality. The chief problem then, is to educate the general practitioner to be on the lookout for this disease, which is not so rare as has been supposed; to appreciate the signs and symptoms of the disease in its early stages and send the case without delay to a surgeon of experience in the surgical diseases of children. When this is accomplished, the high mortality of the past will be eliminated.

### Clinical Department.

#### SOME UNCOMMON TYPES OF SKIN DISEASE.

BY A. J. NUTE, M.D., BOSTON.

P. A. Surgeon, U. S. Public Health Service,  
Immigration Station, Boston.

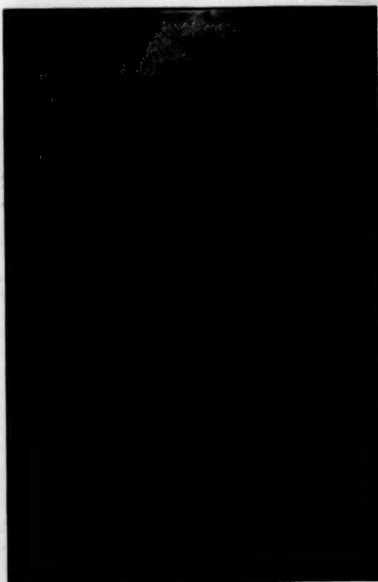
ONE of the best places in the world to see various types of skin disease is in the medical examination of arriving aliens. People coming from all quarters of the globe, often in anything but clean condition, may be found afflicted with many of the diseases not often seen in private practice.

A dermatologist in New York once said in a lecture that dermatology was one of the hardest of specialties, as there were about two hundred skin diseases classified by various authorities and in practice about two thousand modifications. The more one deals with immigrants the more one is inclined to agree with that statement.

The five cases given were selected as being of more interest to the general practitioner than the specialist, for the diseases may be found at any time in the country as well as in the city. The specialist having connection with a large clinic drawing its trade from all walks of life and all races has an opportunity to see cases that would

be so rare as to puzzle his brother in general practice.

CASE 1. Favus of the body. Greek, male, 19 years of age. Scalp negative; finger nails infected and his body in general from shoulders to feet. Favus is a peculiar disease. Recognized as contagious, yet often selecting certain areas and allowing other parts of the body to escape. If the scalp is infected one should look over the finger nails with care and vice versa, as it is usually found in a class of people who do not consider it impolite to scratch their heads at any time or in any place. Nevertheless, it is often found in the head and the nails free. To find it over the body I believe to be rare. This case evidently started in the hands and was one of the unusual cases that spread over the parts of the body protected by clothing and left the scalp free. Later this case developed symptoms of intestinal irritation due to the achorion Schönleini getting into the rectum.

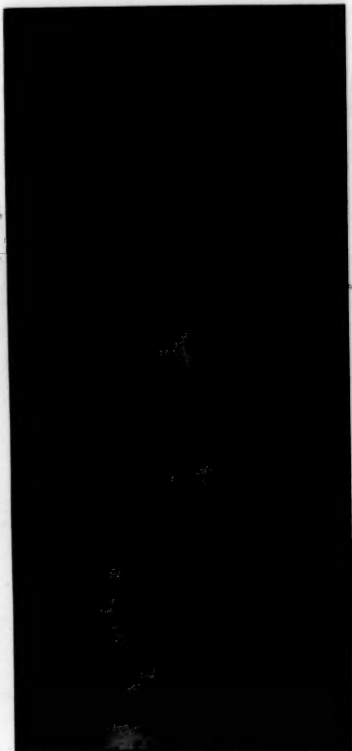


CASE 1. Favus.

CASE 2. Blastomycosis fungoides. Native of Poland, between 25 and 35 years of age, laborer; in general, well developed and nourished. Both hands and elbows involved. On first examination this case closely resembled either verrucous tuberculosis or vegetative syphilide. Under the microscope, the true nature appeared in the large number of yeast plant fungi present. The lesion presents very little pus, being mostly scar tissue and crusts. The violet or lilac color described by many writers was missing in this case.

Why certain yeast and mould fungi are pathogenic and others harmless is a problem; also whether

they differ in some way from the ordinary varieties. While these cases often seem to be in otherwise good physical condition, sooner or later it is common to find constitutional symptoms of either tuberculosis, pyaemia, necrosis of bone, subcutaneous abscesses or subcutaneous nodes resembling erythema multiforme.

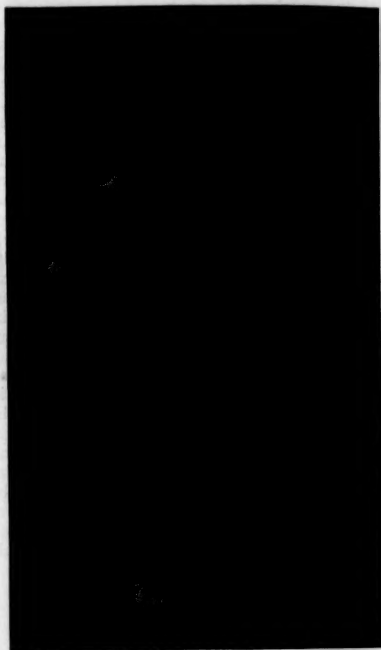


CASE II.

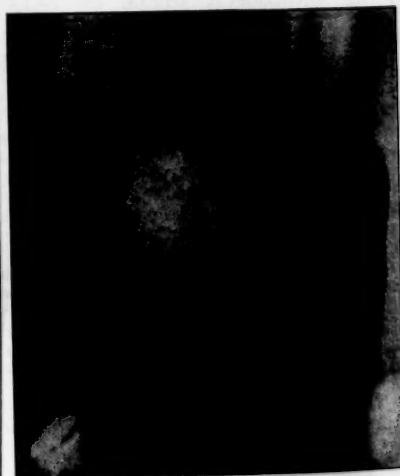
CASE 3. Pityriasis rosea. Russian Hebrew, male, 26 years of age, tailor, arrived in Boston on an Italian ship. A very worried man, shunned by the other passengers in the steerage and as a precaution kept in the ship's hospital. Various people had told him he had either syphilis or some other loathsome contagious disease, and when the patient came up for examination he was ready to believe the worst, broken out from his shoulders to feet with pale red, irregularly sized, slight scaling efflorescences. These cases are not uncommon in the larger city clinics but must also exist in other places and might easily be treated for some more serious condition.

A few weeks treatment with weak sulphur ointment resulted in a well and happy man.

CASE 4. Pellagra. Portuguese, male, 58 years of age, laborer, resident of Massachusetts for 25 years.



CASE II.



CASE III.

Pityriasis rosea, showing different size and development of lesions.



History of the disease about six years' duration, worse in the summer than in the winter. In the literature one may find the statement that the disease exists south of the 41st degree of latitude, but here is a case that evidently arose in Massachusetts, and in the future we shall hear of more, regardless of climate. The three D's were characteristic, diarrhea, dermatitis, delirium, in addition to marked muscular weakness. As one of his relatives aptly described the case, "He seems to get sun burned in the spring and then has this trouble. Toward fall it begins to get better, but he cannot work."



CASE IV.

CASE 5. Vitiligo. Portuguese female, from the Azores Islands, 62 years of age, housework, and never in the United States before August, 1915.

This case was thought worthy of showing, not so



CASE V.

much as uncommon as because of the unusual bilateral symmetry of the lesions. This condition has existed over twenty years with no apparent cause and the woman was otherwise healthy for her age.

Another interesting fact with such cases is that

it has been reported on good authority that in certain regions of Asia they are segregated and kept with lepers. As vitiligo shows no areas of anesthesia, no structural changes in the skin or constitutional symptoms as in the case of leprosy, it hardly seems that the two conditions are likely to be confused. Possibly these cases are held only temporarily as suspects.



CASE V.

### Medial Progress.

#### PROGRESS IN BIOCHEMISTRY.

BY A. EVERETT AUSTIN, M.D., BOSTON.

#### CARBOHYDRATE METABOLISM.

BASED upon experimental consideration, A. I. Ringer<sup>1</sup> has come to the conclusion that hydroxybutyric acid remnants cannot possibly become oxidized to the ketone stage, the form in which it circulates, because oxidation can be accomplished only by the removal of two atoms of hydrogen, and in this compound there is only one available hydrogen atom. Therefore the ability of glucose to check acid intoxication in the normal individual is based upon its ability to unite with that acid and therefore change its structural configuration so as to give rise on further oxidation to non-acetone genetic products. Hence in the sufferer from diabetes, since both glucose and hydroxybutyric acid circulate in abundance in his blood, the important influence in acidosis is probably the failure of that individual to bring about this glucoside union. Hence it seems probable that the failure to accomplish this synthetic condition is at the bottom of all chemical disturbances in the diabetic, such as the loss of glycogen formation, with the consequent hyperglycemia, inability to burn glucose and the disturbances of the oxidation of the lower fatty acids, since all can be explained by the presence of this deficiency.

Frank P. Underhill,<sup>2</sup> working on a different line of research and endeavoring to explain the well known fact that suitable quantities of hydrazine salts, administered subcutaneously, induce marked hypoglycemia, with the accompanying reduction in the glycogen content of the liver, has analyzed the blood, liver and muscles of dogs so treated, with results which show clearly that the transference of the body carbohydrate and glycogen to the muscles does not suffice as an explanation of the disappearance of this substance from the liver and the decreased blood sugar content. On the other hand, there are indications, not only that the liver is deprived of this glycogen, but that the muscles also suffer to the same extent, leaving no explanation for the ultimate fate of the disappearing sugar. At least with hydrazine, in distinction from phlorizin, no sugar ever appears in the urine.

Continuing this investigation further, the same author, after subcutaneous administration of hydrazine to rabbits, perfusing the heart with sugar-containing fluids, found no greater loss of sugar with such animals than with those to which the drug had not been given; the problem of the fate of the sugar still remains unsolved.

The effect of inulin on the output of glucose in diabetics has been investigated by Lewis and Frankel,<sup>3</sup> who have shown by experimental evidence that inulin administered to phlorizinized dogs gives rise to no glycosuria. The effect of levulose on the dog and similar animals is the elimination of a large amount of glucose. Since levulose administered to such dogs is largely excreted as glucose and not levulose, there seems little probability that any appreciable amount of inulin is converted to levulose or to any product which can give rise to glucose in the diabetic organism.

Epstein and Baehr<sup>4</sup> have investigated the subject of hyperglycemia following hemorrhage which has been previously attributed to the psychic influence, the so-called emotional glycosuria. These authors, however, have discovered that the increased sugar of the blood is a compensatory response on the part of the organism to keep the total blood sugar up to the level commensurate with the needs of the tissues. On account of the diminished blood volume it is accomplished by the increase in the concentration. Similarly, if the total volume of fluid in circulation is not diminished, and when the blood is withdrawn, it is replaced immediately by saline solution, the procentual concentration of the diluted blood rapidly rises to what it was before the removal. In other words, the total sugar in the circulation remains unchanged. We may have both absolute and relative hyperglycemia, and the glycogen only increased when the hyperglycemia is absolute. There is also a possibility that this observation may account for some of the so-called cases of renal glycosuria; such glycosuria might have been dependent upon

an increase of the total blood sugar, and the absence of any procentual increase could be accounted for by the abnormally large blood volume. Hence, in the study of diabetes mellitus it is necessary not only to determine the percentage of sugar in the blood, but also, as far as possible, the total amount of blood in circulation.

Recognizing the fact that the thyroid and parathyroid exert a marked influence on the elimination of sugar as well as metabolism of carbohydrates, Underhill and Blatherwick<sup>5</sup> have pursued their investigations upon dogs after thyroparathyroidectomy, and soon learned that the average amount of blood sugar following this operation is always low. The reduction begins before there are any convulsions, therefore their conclusions are that hypoglycemia following this operation is neither the cause nor the result of the accompanying tetany, for, although dextrose injections restore the blood sugar to its normal content, they have no effect on the convulsions.

It is therefore suggested that the removal of the thyroid and parathyroid gives rise to two distinct effects, the first being manifested upon the blood sugar regulating mechanism, causing hypoglycemia, the other upon the nervous system, producing tetany. Continuing this investigation, the same authors have shown that calcium is intimately associated with both effects, for injections of calcium lactate will temporarily restore the blood sugar to normal and also abolish tetany temporarily. Furthermore, calcium lactate may play an important part in maintaining the equilibrium of the volume regulating mechanism during normal life.

This subject of the effect of the removal of the parathyroid, the relation of the parathyroid to sugar tolerance and the effect of calcium salts has also been studied by Marine,<sup>6</sup> who reports that in eight of the ten cases under consideration a marked fall in sugar tolerance was noted after parathyroidectomy, while in two with natural low toleration limits, the tolerance remained unchanged after the removal of at least three parathyroids. The feature of most interest is that parathyroidectomy does not result in constant glycosuria, nor does the administration of calcium salts seem to modify the altered sugar tolerance of parathyroidectomy.

#### PIGMENTS OF MILK FAT.

For a number of years a great variety of yellow animal pigments has been given the general term of lipochrome, which recent investigations have shown, bear in many instances a close chemical relation, or rather possibly are identical with the carotin, or the yellow pigment of plants.

Palmer and Eckles<sup>7</sup> have continued this investigation with the following results: The fat of cow's milk is indebted for its natural yellow color to the pigments, carotin and xanthophyll, especially the former, which is a well known

yellow vegetable pigment found accompanying chlorophyll in all green plants. Furthermore, these pigments of milk fat are not synthesized in the cow's body, but are merely taken up with the food and consequently excreted in the milk fat. This is demonstrated by the fact that when cows during the winter receive food poor in these pigments, the total fat, while not necessarily diminished in amount, approaches a colorless condition, increasing with the length of time they are deprived of these pigments in the food, which apparently proves that there is an accumulated store of pigment in the organism of the cow. When, on the contrary, the animal is fed, after this period of restriction, with fresh food, of which green grass contains the greatest portion of pigment, the color immediately returns to the milk fat. Continuing this investigation, they have demonstrated that the yellow lipochrome of the body, corpus luteum, skin and the secretion of the cow, like the yellow pigment of butter fat, are composed principally of carotin, which may have sometimes associated with it some of the lesser yellow pigments. It has been further found that the yellow pigment of the blood serum of the cow is also composed principally of carotin, the widespread hydro-carbon pigment of plants. On the contrary, the blood serum of the new-born calf is free from these pigments. Hence the serum pigment is probably of greater importance in the form of milk fat, body fat and corpus luteum of the cow.

Applying this investigation to humans, the same authors found that the fat of human milk may be tinted by carotin and xanthophyll, the same pigments which characterize the fat of cow's milk. The relative proportion, however, of carotin and xanthophyll, in human milk fat, is much more nearly equal than in the fat of cow's milk. While the colostrum fat of the former is characterized by the same high color as is the fat of the milk of cows, the pigment of the human body fat is identical with the pigment of the milk fat.

In conclusion, by experimental evidence these authors have shown that there is a very close relationship, if not identity, existing between the yellow pigment of milk fat and the urochrome of the urine. For these have the same chemical reaction, showing no lines in the spectroscope. Both can be converted by acetaldehyde into pigments having spectroscopic qualities which are identical with urochrome.

#### UREA.

Marshall and Davis<sup>8</sup> have pursued certain investigations to determine the urea content in various tissues of the animal body and the relation of its percentage to that of blood, by the analysis of the tissue before and after injections of large amounts of urea; similarly, analyses of animals whose kidney functions had been interfered with, either with or without the urea in-

jections and from autopsies of nephritics. Their conclusions are that urea is present in all the organs and tissues of normal animals and the urea is approximately uniform with that of the blood, both in normal conditions and when abnormally large amounts of urea are circulating. When urea is injected subcutaneously it circulates to all parts of the body in a very few minutes. The urea is eliminated with great rapidity by the kidneys, with such rapidity that excretion may rise to 16 grams per kilo of body weight per day, and even higher. The rate of urea in normal animals is directly proportional to the concentration of urea in the blood; when the excretion of urea is prevented, the entire amount formed is stored in the body. There is no evidence of its conversion into any other substance.

Fiske and Sumner<sup>9</sup> have engaged in an investigation to determine the chief site of urea formation in the body from amino acids. It has always been conceded that the liver represents the chief site of urea formation. This has always been open to question because experiments have been only indifferently controlled. The conclusions of these authors, based upon a large amount of experimental work, are that unassailable evidence of the liver's chief part in urea formation from amino acids does not exist. The accumulation of urea per unit of mass in the blood and tissues with intravenous injections of amino acids is as great when the liver and other abdominal organs are excluded from the circulation as when they are in their normal relations. The authors fail to inform us where this transformation takes place.

McLean and Selling<sup>10</sup> have continued the investigations initiated by Folin and Denis on the urea and total non-protein nitrogen in normal human blood. Their conclusions, based upon these investigations, which comprise nine individuals, showed that from 10-23 mgms. of urea nitrogen were found in 100 c.c. of blood, while the total non-protein nitrogen varies from 23-36 mgms. in the same individuals. Hence the concentration of total non-protein nitrogen and that of urea in normal human blood is not constant, but varies within wide limits, according to the various factors,—diet, amount of fluid, etc. Furthermore, there is a close parallelism between the concentration of urea in the blood and the amount excreted in the urine in normal individuals under average conditions. Ambard's coefficient, when computed from results obtained by the method of Folin, varies only between comparatively narrow limits, and may be regarded as constant. In addition, a concentration of the protein nitrogen as high as 22 mgms. per 100 c.c. of blood does not indicate any disturbance in urea elimination unless associated with the relative decrease in the amount excreted. Ingestion of urea does not materially alter the value of Ambard's coefficient, providing sufficient time is allowed for absorption before the examination is made.

## ENZYMATIC ACTIVITIES.

As alcohol is used so commonly for the preservation of all pathological specimens and, as it is well known that autolysis rapidly takes place in such tissues, unless strongly inhibited, from the inherent digestive ferment, Wells and Caldwell<sup>11</sup> have investigated the strength of alcohol necessary to prevent such disintegration. They found that for complete suppression of the autolytic digestion of liver tissue by alcohol, the actual strength of the fluid added cannot be safely less than 90%. Between 80 and 90% self-digestion may take place, and below 80% of the alcohol autolysis is certain to take place at either room or incubator temperature. For each gram of finely ground tissue at least 10 c.c., or better, 15 c.c. of 96% alcohol must be used for preservation. If such changes are to be fully inhibited this can be more readily accomplished, when not contraindicated, by boiling the tissue a few minutes in alcohol to destroy these enzymes.

As is known, the soy bean contains a very active enzyme which splits urea into ammonium carbonate. This action is specific in that it does not attack any other constituent of the urine.

Van Slyke and Cullen<sup>12</sup> have endeavored to add to our knowledge of this urease and to determine whether it acts by direct contact or by the formation of an intermediate labile compound. If the former were true, the reaction velocity, enzyme concentration being kept constant, should increase in direct proportion to the urea concentration; if the enzyme acts by formation of an intermediate compound with the urea, however, one would expect conditions to be different. So long as sufficient urea were present to keep all the enzyme combined and therefore acting, the presence of excess urea beyond this point would not accelerate the reaction. The excess urea would remain inert, awaiting an opportunity to combine with the enzyme.

As a result of extensive experiments they found that there is actually formed an intermediate compound which acts upon urea.

The former author, Van Slyke, in collaboration with Zacharias, has also studied the influences which retard the action of urease. Such retarding agents were found to be, first, ammonium carbonate, one of the resultant compounds of urea disintegration, which acts largely by increasing the alkalinity of the solution in which enzymatic action takes place. Neutral salts, phosphates and sodium chloride, retard the action of this ferment.

Urea therefore shows its highest activity in the presence of the lowest concentration of phosphates that maintains neutrality. Furthermore, glucose retards enzyme reaction in the same way as neutral salts, an action which is equalled by alcohol in 30% concentration.

Crohn and Epstein,<sup>13</sup> in investigating the influence of normal and diabetic serum on pan-

creatic amylase, found that even the smallest quantities of serum had a marked stimulating effect on the amylolytic activity of the extract of a dog's pancreas, this increase amounting often to three and fourfold. This power is not diminished by boiling the serum nor by allowing it to remain at 23° C for many hours. This activating power of the serum is lessened by dialysis, while the salts of the serum and the proportion in which they exist in it are largely responsible for this phenomenon.

Sodium chloride has no effect; adrenalin may have a slight positive influence, while lecithin has none. These facts are of great interest because of the duodenal content which, for the amylolytic activity, seems barely sufficient to digest the ordinary daily intake of carbohydrate, but if we increase this power to two to four times by the presence of serum salts, we can satisfactorily explain why starch so rarely appears in the stools and why pancreatic digestion so rarely becomes insufficient for carbohydrate.

Joblin and Petersen<sup>14</sup> have continued their investigations on ferment inhibiting substances. Their present work is devoted to the agencies which restrict proteolytic enzymes acting in an alkaline medium. The result of these studies is as follows:—

Soaps prepared from olive oil, croton oil, cod liver oil, linseed oil, etc., have the property of markedly inhibiting the action of trypsin and leucoprotease. The activity of these soaps is dependent upon the degree of unsaturation of their fatty acids, and is in proportion to their iodine value. Saturation of the acids with a halogen (bromine or iodine) causes a loss of this property, while soaps of the saturated fatty acids do not possess this characteristic.

The same authors, continuing their investigations, have come to the conclusion that the ferment-inhibiting action of the blood serum is due to the presence of a compound of the unsaturated fatty acids. This conclusion is based upon the fact that when the fatty acid compound is removed from serum, it loses this action and, furthermore, soaps prepared by saponifying the chloroform and ether extract inhibit the action of trypsin also, with a decrease in strength. Anti-enzyme in old sera is probably due to the action of the serum lipase. These experimental results are apparently confirmed by clinical investigations, that is, there is an increase of the serum anti-enzyme in acute infections, such as typhoid, pneumonia, etc.; in chronic wasting diseases such as syphilis and tuberculosis, and in severe anemias such as those accompanying malignant growths; in all but the first of these the demand of the body or the action of toxins causes a marked reduction in the fat deposits of the body. This disappearance of fat, in conjunction with the lowering of the powers of the liver and tissues in general, causes an increase in the unsaturated fatty acids in the blood and thus an increase in the ferment-inhibiting action.



## CONSTITUENTS OF THE BLOOD.

Folin and Denis<sup>15</sup> have examined the blood of about two hundred patients at the Massachusetts General Hospital to determine the creatinin and creatin content of the blood, and they have never been able to find any specific creatin retention. They further state that except in extreme conditions of urinary reduction approaching anuria the creatin remains at the normal level. It was found that the human kidneys were able to remove the creatin from the blood with remarkable ease and certainty. The completeness of this excretion is exceeded only by the still more complete removal of the ammonia salts.

Fiske and Karsner<sup>16</sup> have studied the effects of acute destructive lesions of the liver on the ammonia content of the blood. Their object was to learn whether there is any greater interference with the function of the liver in eliminating ammonia, when larger areas were destroyed than is known in human sclerosis. It is probable that the factor of safety in the liver is so great that no such alteration of function occurs *a priori*, at least when the amount of destruction is compatible with life and the results of the experiment were in accordance with this assumption.

Upon perfusing cat's liver from animals which had been poisoned by chloroform, phosphorus and hydrazine, it was found that, in spite of the marked destruction of liver tissue, the reduction of ammonia in the perfused blood, as a result of one hour's activity, was very marked and, by use of a method of oxygenation, the reduction of ammonia content was still greater. To sum up the results, they declare that there is no difference between normal livers and the livers poisoned by the various toxic substances mentioned, in the result of their ability to lower the ammonia content of the blood perfused through them.

Marriott<sup>17</sup> has made a careful study of the blood in acidosis from the quantitative standpoint, employing a newer method for the acetone bodies, in which quantities of blood as small as 1 to 5 c.c. may be employed. He found, in brief, that the blood of normal human subjects and that of dogs, pigs and cattle contain less than 1.5 mgms. of aceto-acetic acid and less than 4 mgms. of oxybutyric acid per 100 grams of blood, the results being expressed in terms of acetone. In acidosis the acetone bodies in the blood are much higher than normal; the highest degree obtained by this author was 28 mgms. of aceto-acetic acid and 45 mgms. of oxybutyric acid per 100 grams of blood, expressed as acetone.

Shaffer<sup>18</sup> has again investigated the normal level of blood sugar in the dog. Special effort was made not to arouse pain or fright in the animal bled. The author declares that, based upon twenty different dogs, in some instances bleedings having been made for a period of sev-

eral weeks and under different conditions as regards food and the state of nutrition, the results varied between 0.02 and 0.065%, and these values could therefore be taken as more nearly the normal limits of the blood sugar content of dogs. Of these results, one-half to one-third greater values are accepted as normal. Shaffer's explanation is that the former large amounts found depended upon emotional excitement of the animal, which appears to produce rapidly a temporary hyperglycemia. The author has agreed that the blood sugar of man can be regarded as varying from 0.06 to 0.11%, and declares that this deficiency is due to lack of emotion, because such blood is always drawn from a superficial vein, and without causing pain in the latter.

Jacobson<sup>19</sup> has made a study of the disappearance of ammonia from the blood in normal and in thyroidectomized animals. This has been determined by the rate of disappearance of the ammonia from the circulating blood after intravenous injections of ammonium carbonate. The liver is left in its normal relations, and the factor of elimination of ammonia through the kidney excluded by ligation of the renal vessels.

The conclusions of these experiments are, that with the kidney excluded from the circulation, ammonia injected into the blood is so rapidly removed that only a very slight excess is present five minutes after the injection.

There is only a very slight difference between the amount of ammonia removed in normal and thyroidectomized animals. Furthermore, this method is not adequate for the determination of liver efficiency (ammonia destroying power), because the rate of disappearance of excess of ammonia from the blood, independent of the liver function, is so great as to render the ammonia destruction of the liver almost a negligible quantity.

Karsner and Denis<sup>20</sup> have continued their studies on nitrogen retention in the blood in experimental acute nephritis and have demonstrated that arsenic nephritis shows almost no retention of nitrogen, although studies of urinary nitrogen indicate an increased catabolism. Diphtheria nephritis also, in its early stages, as the former, shows little or no actual nitrogen retention in the blood. In both cases, however, there appears to come a time when the excreting power of the kidney is exhausted and nitrogen accumulates in the blood.

While both the former produce tubular changes, tartaric nephritis shows changes which are more of a glomerular character, and in this form there is the most remarked retention of nitrogen in the blood. This persists even though the glomerules show almost no change and continue to clear up with the progress of time.

## ABNORMAL METABOLISM.

Levene and La Forge<sup>21</sup> have continued their studies on the pentose of the urine of an indi-

vidual, apparently in good health, by means of obtaining a large amount of the osazone from which they determined that this sugar belongs to the xylose group. This conclusion is based upon certain indirect evidence, such as the increase of its optical rotation on standing and, upon distillation with hydrochloric acid, the sugar content produced a large quantity of furfural; that by oxidation experiments the urine pentose has the structure of a keto pentose.

Raiziss, Dubin and Ringer<sup>22</sup> have made some special studies in endogenous uric acid metabolism in cases of psoriasis; based upon inconclusive evidence, persons affected with this disease have been supposed to have an abnormal metabolism of uric acid, but these authors considered such patients normal as far as uric acid metabolism is concerned because the various stages of the disease did not seem to vary the uric acid excretion in any way. However, in the course of these studies, it was found that these patients improved remarkably when kept on a meat-free, low protein diet. Their summaries in conclusion are that the uric-acid elimination, based upon ten individuals was much lower than was previously reported in the latter. Furthermore, different individuals under the same conditions of diet and rest, eliminated practically the same amount of uric acid per day, which is increased equally by work and high protein intake.

On placing these individuals on a practically nitrogen-free diet, which was at the same time free from nuclein, after the vegetable diet period, the uric acid amounted to about half of what it was on the vegetable diet (0.040 grams per day). Finally on giving milk, eggs and zwieback to the extent of 12 grams of nitrogen per day to one of these patients immediately following the nitrogen-free diet, the uric acid output rose but slightly (0.05 grams per day), but when the vegetable diet was resumed, the uric acid nitrogen elimination rose again to its former level (0.44 grams per day).

Bergeim, Stewart and Hawk<sup>23</sup> have made some careful investigations of the metabolism of calcium, magnesium, sulphur, phosphorus and nitrogen in acromegaly. The patient was a young male, a native of Russia, who presented all of the characteristics of this peculiar disease. Their conclusions are, that there is a distinct retention of calcium, magnesium and phosphorus, which is unaccompanied by corresponding changes. In general, metabolism is normal, as evidenced by a practical balance of nitrogen and sulphur. It is, therefore, concluded that there is a primary disturbance in the metabolism of the mineral elements mentioned with the probable formation of new bony tissue. The distribution of elements between urine and feces shows no abnormal variations.

The same authors have prosecuted a similar study in calcium metabolism after thyroparathyroidectomy. The patient, on account of the difficulty in respiration, had had first a trache-

otomy and then the removal of the entire thyroids as well as the parathyroid glands. The patient on account of his condition was fed upon a fully liquid diet. There was found but slight retention of calcium during a ten-day period. The urine excretion was as low as 0.013 grams per day on a daily ingestion of 1.673 grams of calcium. During this period, however, but slight increase was observed in the calcium content of the blood. No symptoms of tetany were discovered in the patient who survived the operation thirty-nine days. The low urinary and blood calcium values are taken to show deficient absorption of calcium, which may bear some relation to the decreased gastric secretion after parathyroidectomy. The non-occurrence of tetany was considered due to the high calcium intake and to the development of a compensatory mechanism in which the pituitary body may play a part.

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CASES OF INFECTIOUS DISEASES reported to the Boston Board of Health for the week ending Nov. 23, 1915: Diphtheria 61, of which 11 were non-residents; scarlatina 43, of which 10 were non-residents; typhoid fever 9; measles 31; tuberculosis 54, of which 2 were non-residents. The death-rate of the reported deaths for the week was 14.04.

## Harvard Medical School

### MEDICAL EXPERT TESTIMONY AND LEGAL LIABILITY.\*

Mr. JOHN LOWELL presided and outlined the two subjects for discussion.

Mr. JUSTICE HAMMOND of the Supreme Court of Massachusetts: The difficulties of the doctor in court are admittedly great, owing especially to the form of procedure known as the "hypothetical question." Failures on the part of doctors as witnesses are of two general classes:

- (a) The doctor fails to realize how completely his reputation depends on his honesty in court. Further, he does not understand his relation to the lawyers who employ him.
- (b) The doctor allows personal theory or a desire to be consistent to give his statements an inexcusable bias.

Mr. WILLIAM G. THOMPSON:

A. *Evidence.* The essential differences between the legal and the medical point of view are:

- (a) Unlike science, the practice of law deals with practical controversies and is, therefore, not disinterested and impartial.
- (b) The determination of justice not being assigned to witnesses or advocates,
  - (1) Witnesses are responsible only for answers to questions.
  - (2) It is a violation of advocate's duty to advance evidence against his client's case.

B. *The Special Province of the Expert Witness* becomes evident by noting:

- (a) Ordinary witnesses are expected to give facts without any inferences.
- (b) Expert witnesses are expected to give the facts *plus* such inferences as their special training warrants them in making.
- (c) Expert witnesses may even give such inferences as they are qualified to make from facts outside their own experience.

C. *The Doctor's Legal Responsibilities as a Witness.*

- (a) *Diagnosis.* Here the attending physician is usually responsible. Caution against being deceived by patient's conduct during convalescence. Doctor thus becomes witness to nothing but his own credulity.

- (b) *Prognosis.* The court is concerned not with what is possible, but with what is probable.
- (c) *Causation.* The court is concerned only with immediate real and substantial causes. Remember two facts: (1) There is a difference between *post hoc* and *propter hoc*. (2) The intentions of the agent are of no import in the actual causation.

D. *Two Essentials of Preparation of Case are*

- (1) In conference with the lawyer before the trial the physician should ask and find out definitely what questions he is to be asked. If these questions cannot be answered honestly to the satisfaction of the lawyer, this is the time to withdraw from the case.
- (2) Review all your reasons for thinking as you do.

E. *Conduct in Court.*

- (a) No one is allowed to take away a witness' right thoroughly to understand a question before he answers it. If in a hypothetical case expert desires further data, he may ask for them.
- (b) Free use of "I don't know" is indicated when you don't know.
- (c) Do not hedge, however, on what you do know.
- (d) Make reply quickly.
- (e) Look out for the lawyer's trick of getting the witness to give assent to a slight misquotation of some one of his previous statements.
- (f) Keep your temper.
- (g) Confine your answers to the questions put to you; and point out your rights where categorical answers would be misleading.

F. *Fees for Expert Testimony.* The settling of the amount of the fee is purely a matter of negotiation between physician and lawyer. The attending physician ordinarily makes no extra charge. The following rates conform with ordinary customs:

- (a) For examination of patient \$10 to \$25 is not unreasonable.
- (b) Conferences with lawyer at double the ordinary office call.
- (c) Expert witness ordinarily charges \$25 to \$100 a day for court work.

Two cautions are suitable:

- (a) Don't hesitate to state financial arrangements if questioned in court about them. Anything else than direct frank statements are detrimental.
- (b) The expert witness should send in his bill before the trial, so that he may protect himself against the charge of being financially interested in the outcome of the suit.

G. *Lawful Requirements of Medical Witnesses.*

- (a) No other demand than testimony before the court can be made by any person or agency.

\* Report of Lectures on the Medical-Legal Responsibilities of the Physician, given at the Harvard Medical School, Friday, Nov. 19, 1916.

- (b) A doctor's personal notes on a case may be required by the court as evidence, whether or not the doctor is retained by either side. In such a case the physician is legally entitled to no more than a lay witness.
- (c) A physician may be required to testify as an expert without any legal claim for special recompense, but in such event cannot be forced to read up or prepare the case. Therefore more than his offhand opinion on the case as presented to him in court cannot be required.

#### DR. COURTNEY:

Adherence to the following rules would improve expert medical testimony 100%

- (a) The witness must have accurate and full knowledge of the patient's history as well as present condition. He is not going to be examined in what he does not know unless it be something directly concerning the case.
- (b) An expert who cannot testify in simple terms will find the effect of his testimony soporific only.
- (c) It is not the province of the medical expert to attempt to fix the blame.
- (d) Witness should take his tone from the court. Flippant self-assurance and spurious ease are easily recognized. Attention should be given at all times to the jury, and the voice and temper must be controlled.

#### MR. A. D. HILL: *Liability of Practitioners.*

The law will not hold liable a well-equipped careful man of reasonable skill, who makes use of such tests and appliances at his command as are reasonable in the particular situation in which he is placed. It is apparent that in the long run the best of men will at some time or other fall below his usual standard. Nevertheless damage suits are based on other grievances than the occasional human failings of physicians.

The main precautions to be taken are:

- (a) Have full records, including explicit statements made to patient in regard to what you could not undertake to accomplish. Incomplete records are the most frequent cause of disaster. Note that charity patients enjoy liability law.
- (b) Exercise greatest care and circumspection.
- (c) Insist on your orders being obeyed; otherwise it is prudent to refuse any responsibility.
- (d) Insurance.

The medical profession should be clearly aware of the temptation in legal procedures to protect fellow practitioners against justice. This temptation is a very subtle one, but it is not hard to see the eventual wrong that professional protection does in lowering the ethics of the medical profession.

A. COOLIDGE, M.D.  
A. GREGG, A.B.

#### MEDICAL MEETING IN THE AMPHITHEATRE OF THE PETER BENT BRIGHAM HOSPITAL, TUESDAY EVENING, NOVEMBER 23, AT 8.15 O'CLOCK.

##### EXHIBITION OF CASES.

DR. HARVEY CUSHING: A case of Hodgkin's disease showing a very chronic clinical course.

DRS. A. J. HAMILTON AND J. E. ASH: A case of Hodgkin's disease showing an acute clinical course, with pathological specimens.

Paper of Dr. J. L. YATES, of Milwaukee,—

#### HODGKIN'S DISEASE AND CLOSELY RELATED AFFECTIONS: THEIR TREATMENT BASED ON ETIOLOGY AND MORBID PHYSIOLOGY.

Hodgkin's disease must be classified with the infectious diseases. The microorganism responsible for the pathological processes characteristic of this malady may gain entrance to its host through any chronic lesion, either of the skin or of the mucous membranes.

The investigations carried on by Dr. Bunting in the pathological department of the University of Wisconsin and by Dr. Yates in Milwaukee, have shown that there are three diagnostic criteria for this disease: the histological, the hematological and the bacteriological. As yet the histological studies have shown no fully established pathological entity. The blood picture, however, is very characteristic. It constitutes the most reliable single diagnostic measure, and it forms the best guide for treatment. In following the results of therapeutic measures it is invaluable. All of the animals which were injected with the microorganism isolated by Bunting and Yates showed the characteristic blood pictures. The agent responsible for Hodgkin's disease is a diphtheroid organism ubiquitous in nature. It has been recovered in pure culture from certain of their patients on many different occasions. When the histological and hematological findings have been positive Bunting and Yates have never failed to get pure cultures, except where treatment has previously been instituted. This same diphtheroid organism has been isolated from patients representative of seven different disease pictures. From an etiological standpoint, then, the following diseases must be grouped together. The various pathological changes found here represent different stages of the same disease.

- Group I. Type Hodgkin's.
- Group II. Lymphoma—Large cell
- Group III. Lymphoma—Small cell
- Group IV. Banti's Disease
- Group V. Chronic Hypertrophic Arthritis
- Group VI. Elephantiasis
- Group VII. Mycosis Fungoides

The toxin circulating in the tissues in Hodgkin's disease has a specific action on three types of cells: the lymphoblast, the endothelioid cell, and the fibroblast. The clinical course of this disease, which



shows alternating waves of aggression and regression, may be explained by assuming that the patient is never able to produce sufficient antibodies to overcome the infection.

In the past the patients have always been treated symptomatically. Yates now bases his treatment on an hypothesis which accords with the pathological and clinical aspects of the patients. The portal of entry is first excised. This, in the great majority of cases, is the tonsil. An attempt is then made to throw the balance of power on the side of resistance by excising as much of the diseased tissue as possible, thereby removing the greatest quantity of toxin in the shortest time. To prevent recurrences the wound is thoroughly bathed in iodine, and x-ray treatment is started within a few hours. Later immune serum is administered and proper hygienic measures are instituted. In the treatment the toxin must be neutralized. Unless this be done, whether the glands enlarge or not, the patient is doomed. (Lantern slides were shown to illustrate the cases.)

The presence or absence of periadenitis is of great moment in gauging the therapeutic measures. Great periadenitis points to an unfavorable stage. Excision, accordingly, is not carried out at such a time. To remove an individual gland in Hodgkin's disease for microscopical study should be censured as severely as a similar course in the presence of carcinoma.

Yates and Bunting regard only such patients as cured as have shown no recurrence within five years. In a series of ten cases under observation for from one to eight years: one died from the operation, three succumbed to the disease, four are living and well with excellent chances for cures, and two are absolutely cured—one after six and one after five years.

#### DISCUSSION.

DR. MALLORY: The diseases mentioned in the first three groups of Drs. Yates and Bunting should be regarded as different expressions of one process—the lymphoblastoma, Hodgkin's disease and the lymphomata, then, are the clinical expressions of a new growth and are not infectious diseases. (Lantern slides were shown to illustrate the reaction of different tissues to the lymphoblastoma.)

DR. WRIGHT: A natural flora of organisms exists in the lymph nodes in smaller or larger numbers. It is conceivable that a tumor might arise from a pleomorphic organism in the nodes. There is still considerable skepticism regarding this, however, since nothing like Hodgkin's disease or lymphoma has been produced by inoculating animals.

DR. WOLBACH: The bacteriological work done by workers in general on Hodgkin's disease is very poor. The papers published on this disease give no satisfactory account of the characteristics of the organism supposed to be responsible for the pathological changes. It is absolutely essential that the properties of these microorganisms be adequately laid down. In view of the meagre bacteriological reports at present, and the wide distribution of the diphtheroids in the body, the speaker is skeptical regarding the organisms held responsible for Hodgkin's disease.

DR. GREENOUGH: The most important point from the clinical side is that the mortality from this disease under the usual conditions is close to 100%. Yet Dr. Yates points to a small proportion of his

cases which appear to have been definitely benefited by his measures.

DR. YATES: There is no known type of neoplasm which has constantly a temperature such as is seen in Hodgkin's disease. The tissues from some of Yates' and Bunting's experimental animals show a type of reaction which is very suggestive of the changes found in Hodgkin's disease. A perfectly characteristic blood picture appeared in the animals injected with this organism.

ERNEST GREY, M.D., *Secretary.*

#### Book Reviews.

*The Medical Record Visiting List or Physicians' Diary for 1916.* Newly Revised. New York: William Wood and Company. 1915.

*The Physician's Visiting List for 1916.* Philadelphia: P. Blakiston's Son and Company. 1915.

*The Practitioner's Visiting List for 1916.* Philadelphia and New York: Lea and Febiger. 1915.

The approach of a new year brings the annual editions of the standard visiting lists for physicians. These are as convenient as they are necessary, and the possession of one is essential to the practitioner who aims at efficiency and preparedness. Which one he shall select for his own use depends largely on his personal taste and habit, since all are suitable to the purpose for which they are designed.

*The Etiology of Typhus Exanthematicus.* By HARRY PLOTZ, PETER K. OLITSKY AND GEORGE BAEHR. 1915.

This monograph, reprinted from the *Journal of Infectious Diseases* of July, 1915, represents the original researches of the authors in the pathological laboratory of the Mount Sinai Hospital of New York, as a result of which they were enabled to determine the etiology of exanthematic typhus and to prepare an antitoxic and prophylactic serum therefor. In this important piece of investigation the bacteriologic studies were made by Dr. Plotz and the serologic studies by Dr. Olitsky. The book is illustrated with a number of charts and tables and one full-page colored plate. It closes with a valuable alphabetic bibliography of 136 titles. The volume is of peculiar interest as presenting the primary record of a piece of medical research whose practical value received such prompt contemporary demonstration in the European War.

*Guide to the Use of Tuberculin.* By ARCHER W. R. COCHRANE AND CUTHBERT A. SPRAWSON. New York: William Wood and Company. 1915.

This book, as the title would indicate, is intended primarily for the general practitioner, and on this the reviewer would base his only criticism. In this country, at least, and doubtless to greater or less extent elsewhere, the general practitioner is in no position, either by training or experience, to undertake the use of tuberculin, particularly in cases of pulmonary tuberculosis, without danger of doing grave harm. The reviewer firmly believes that tuberculin and its administration in the vast majority of cases should be left to those who are trained in its use and who know not only its value, but its dangers and limitations. Aside from this the book is of value as presenting the subject of the therapeutic and diagnostic use of tuberculin in a short, yet clear, form. There are many illustrative charts, and numerous other diagrams and illustrations. Although it may be doubtful if many general practitioners will obtain much information from this source, for students, physicians in sanatoria and others interested in the subject of tuberculin the book will be helpful.

*What to Eat and Why.* By G. CARROLL SMITH, M.D., Boston. Second edition, thoroughly revised. Philadelphia and London: W. B. Saunders Company. 1915.

The first edition of this book was reviewed in the issue of the JOURNAL for Nov. 2, 1911 (Vol. clxv, p. 696). In this second edition the author has incorporated several accessory chapters, notably one upon exercise and one upon rheumatism. The sections dealing with affections of the stomach have been rewritten and much extended and other chapters have also been enlarged and brought to date. These additions increase the value of the work, which should be considerable to practitioners. The same comment made in our previous review may properly be repeated of this present new edition.

*The Development of the Human Body.* By J. PLAYFAIR McMURRICH, A.M., Ph.D. LL.D., Professor of Anatomy in the University of Toronto. Fifth edition, revised and enlarged. Philadelphia: P. Blakiston's Son and Company. 1915.

The first edition of this convenient manual of human embryology was published in 1910. That the work should have reached this fifth edition within five years is evidence of the value which it has proved to possess for students and teachers. The increasing interest in embryology dur-

ing this period has led to a rapid advance in its knowledge and several of the chapters in this volume have accordingly been recast and their material expanded. At the close of each chapter is a useful bibliography of reference literature on the subject concerned. The book is admirably illustrated with 287 figures, several of which are printed in colors. In comparison with the larger and more elaborate scientific works on embryology, this volume affords a most practical and serviceable handbook of an abstruse subject.

*Notes on Dental Metallurgy.* By W. BRUCE HEPBURN, L.D.S., Glasgow. Second edition. New York: William Wood and Company. 1915.

This British manual of metallurgy for the use of dental students and practitioners was first published in 1910. It was intended as a practical guide in preparation for examination and for the manufacture of fillings in practice. Of particular importance are the chapters on the various alloys, solders and amalgams. This second edition aims to bring the subject matter to date, and in it the chapters on alloys and amalgams have been wholly rewritten, the latter by the author, the former by Dr. A. Campion, professor at the Royal Technical College in Glasgow. In this chapter have been added many useful alloys not included in the first edition. The appendix contains a number of useful tables. The work should recommend itself for its technical accuracy and clearness to students, teachers and practitioners.

*The Book of the Fly.* By G. HURLSTONE HARDY. New York: Rebman Company. 1915.

The discovery of the importance of the house fly as a host and disseminator of various infections led first to the publication of technical and scientific works on the fly, notably such as the volumes by Hewitt reviewed in the issues of the JOURNAL for June 10 (Vol. clxii, p. 867) and for July 8, 1915 (Vol. clxxiii, p. 57). With the diffusion of popular knowledge and interest upon this subject, there arose need for works of a simpler type. The author, in his sub-title, describes the present monograph as a "nature study of the house fly and its kin, the fly plague and the cure." In his preface Dr. Halford Ross comments on the importance of such a work to stimulate and guide intelligently the popular co-operation which is essential to the success of any efforts toward fly extermination. The text of the book is illustrated with a half-dozen figures, the appendix with seven full-page plates, illustrating the anatomy of the fly. The appendix also contains tabular classifications and descriptions of the various fly species and families. The book should be of value, not only to the laity, but to students, teachers and public health officials.

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126 Massachusetts Ave., Corner Boylston St., Boston, Massachusetts.

## DISTRICT MEDICAL SOCIETIES.

DURING the past few years a feeling which is not without good foundation has arisen in the minds of those interested in the broad problem of preventive medicine that, to a certain degree at least, the medical profession is lagging behind the general public in the interest which it takes and the knowledge which it shows of this most important phase of medicine. As a result of this feeling, last year the National Tuberculosis Association organized a plan whereby it was hoped that state medical societies, and through them the district medical societies throughout the country, would take the necessary steps to ensure at least one meeting a year of their annual programs devoted to the subject of tuberculosis and its prevention. Word to this effect, offering hearty coöperation and help in the way of material and lantern slides, was sent out by the National Association to the sec-

retaries of state and local societies. In Massachusetts, at least, there is every reason to believe that these notices received little or no attention.

In the annual program of what is presumably the largest, most powerful and influential district medical society in this state, for instance, for the past two years and for this ensuing year the subject of tuberculosis and its prevention has not been considered except by casual mention. A well known physician was heard to remark that if one wanted to clear the hall at any medical society meeting, one had only to mention the subject of tuberculosis.

While it is in no way claimed that tuberculosis and its prevention is the most important problem in medicine, it may be truly stated, however, that the tuberculosis problem, the cancer problem, and the venereal disease problem are the greatest questions yet unsolved which confront us today.

It would seem, therefore, that the suggestion sent out by the National Tuberculosis Association that one meeting a year of each district society be devoted to the consideration of this subject in its broadest possible aspects, is a most wise one. It would be of greater advantage if some definite arrangement could be made in this state whereby the chairmen and secretaries of local tuberculosis societies were asked to submit the program for their yearly meetings to some central committee and to arrange these programs so as to include one evening each year devoted to tuberculosis, cancer, venereal disease, and public health, respectively. The difficulties arising in regard to speakers, papers, material, lantern slides, etc., could easily be met by the various societies and other organizations interested in these subjects.

This is an excellent opportunity to coördinate and improve a somewhat chaotic condition of the yearly programs of the average district medical society in Massachusetts. It is to be hoped that the Massachusetts Medical Society will take some step as here suggested to bring this about.

## MEDICAL MILITARY REORGANIZATION.

WHILE the subject of military preparedness is attracting national attention, the Southern Medical Association, at its recent meeting in Dallas, Texas, from November 8 to 11, took occasion especially to discuss the subject of medical mili-

tary reorganization, and the importance, in any scheme for enlarging the military provisions of this country, of providing adequately for the medical care of the increased number of troops. As a result of its discussion, the association adopted a series of resolutions, which are published in full in another column of this issue.

The attention of the District Medical Societies throughout the state is called to these resolutions. Fellows of the Society are urged to get into touch with their congressmen and to insist on the importance of incorporating in any bill for an increased army, provision for a sufficient number of trained medical men to care for the health of the soldiers both in time of peace and in war. The experiences of the Spanish War without a definite pre-arranged plan for the medical department of the army are still fresh in mind.

As a matter of fact the measure to be proposed in Congress this winter makes no attempt to provide for sufficient medical attendance in a crisis, or even in times of peace. No class of men is better qualified to determine the necessary number of medical officers than the physicians of the country as represented in the American Medical Association and such more local organizations as the Southern Medical Association. In the present era of preventive medicine, when thorough knowledge of the etiology of disease and of precise methods of caring for the sick and wounded make possible the prevention of epidemics such as used formerly to devastate armies in the field, it is imperative that the health of any army, whether in peace or in war, should be entrusted to especially trained men. Failure to make such provision is only to invite catastrophe and is sure to result in the occurrence of avoidable diseases and in the suffering and loss of wounded from lack of proper treatment. Ultimately, it is the state, as well as the individual, which suffers from the needless sacrifice of human lives through negligence.

As a part of national military preparedness, for peace and for or against war, it is therefore essential that suitable provision for the army and navy medical corps should form an integral part of any legislative program that may be advanced. Congress has already convened and will act shortly. Whatever is to be done in the way of influencing its opinion and action must be done promptly. It is the duty of individual

physicians and of medical organizations throughout the country to urge upon their representatives, individually and collectively, the cardinal importance of the medical aspect of military reorganization.

### A NEW DEPARTMENT.

SINCE the reorganization of the JOURNAL at the beginning of the current year, it has been its intention to present more intimately to its readers, material proceeding from the hospitals and laboratories, affiliated with medical education in the community which it represents. To a considerable extent this has been already possible, and it is expected that it will become possible to a steadily increasing extent hereafter.

On another page of the present issue of the JOURNAL is presented for the first time a new department, established in furtherance of this representative design, under the heading of Harvard Medical School. This department will contain reports of societies meeting at the school or its allied hospitals, accounts of work of special interest that may be in progress at any of these institutions, preliminary reports of laboratory or clinical research, and other briefer items of particular interest pertaining to medical education.

In the present issue there appears in this new department the first systematic report of one of the medical meetings at the Peter Bent Brigham Hospital. These meetings are held nearly every week, and it is expected that their proceedings will be regularly chronicled by the secretary. The other item appearing in the new department this week is a summary of one of the Friday afternoon exercises held at the school for the fourth-year class. This series of exercises, which is an innovation this year in the medical curriculum, aims to review for the benefit of the graduating class important topics selected from the entire field of medicine. It is believed that these exercises, conducted by experts, lead to the production of material which will be of value, not only to students, but especially to practitioners of medicine. It is the purpose of the JOURNAL, therefore, to present weekly reports of these exercises prepared under the authority and supervision of the instructor responsible for the exercise in each case.



The JOURNAL calls the attention of its readers to this new department with the hope that it may prove of interest and value to them, not only as friends of medical education, but as practitioners in the larger clinical fields.

#### MASSACHUSETTS MEDICAL BENEVOLENT SOCIETY.

THE recent annual meeting of the Massachusetts Medical Benevolent Society should recall to the profession the quiet but constant beneficence of this peculiarly characteristic medical charity. For many years the society has annually devoted its entire income to the charitable relief of unfortunate physicians, their widows or children, whom circumstances have made dependent upon the pecuniary aid of others. During the year ended in October, 1915, twenty-three beneficiaries were in this manner saved from acute destitution. Many other deserving cases needed assistance which, for lack of more funds, the society could not give.

It has always been a characteristic point of honor in our profession, as in no other, that its members and their families should freely receive professional service in sickness. It should be felt as equally an honorable duty among physicians to see to it that none of their professional brethren suffer, in old age or adversity, from destitution or physical hardship.

The hardships of war fall with peculiar severity upon our professional colleagues and their families in Europe; but at the same time it should not be forgotten to make provision for the inevitable hardships of misfortune in our own professional community. Every physician to whom the opportunity offers, should feel it a privilege, as well as a pleasure, to assist the Massachusetts Medical Benevolent Society in its work of charity and relief.

#### A STUDY IN HOSPITAL EFFICIENCY.

DR. E. A. CODMAN has recently issued a report of his work on hospital organization as regards the end-result system. This system, as it was presented before the Clinical Congress of Surgeons of North America at its meeting in Novem-

ber, 1913, is set forth in the Report of the Committee on Standardization of Hospitals. Dr. Codman states the object of his report to be twofold. "In the first place (Part I) to continue the illustration of the use of the end-result system given in the first report; and in the second place (Part II), to show the reasons for believing that the great factor militating against the adoption of the end-result system in our large hospitals is the failure of the trustees to realize the financial value of hospital positions to those holding them." Part I contains reports of 270 cases recorded in the manner approved by Dr. Codman and in accordance with the system he advocates. Part II is a study in hospital efficiency, based on the financial report of a private hospital. It expounds the theory that "a hospital appointment is a big asset to the doctor and especially to the surgeon," in return for which he demonstrates his usefulness to the institution and requites it for the benefit which he derives from it by means of the end-result system. In short, Dr. Codman states clearly and logically and by the use of figures that the results to be gained by such a system are: (1) private institutions guaranteeing good results and subject to litigation if they do not get good results; (2) charitable institutions, in which the patients are true experimental material, but guaranteed the best treatment by the end-result system, which makes it for the interest of each surgeon (selected because of his fitness) to get better results than did those before him.

#### MEDICAL NOTES.

THE WEEK'S DEATH RATE IN NEW YORK.—According to Dr. William H. Guilfoyle, Registrar of the Department of Health, the past week has been one of the healthiest in the history of New York City, especially so far as the prevalence of infectious diseases is concerned, as shown in the number of deaths reported from these causes. There was one death reported from scarlet fever, three from measles and eighteen from diphtheria and croup in the entire city, these figures being much lower than at any previous corresponding week of which we have records. The number of deaths reported from broncho-pneumonia, which is a disease chiefly of childhood, was sixty-seven, as compared with ninety-four during the corresponding week of 1914. The adult population was correspondingly healthy; in other words, at all the age groupings of the population there was a decline in the number of

deaths compared with the corresponding week of 1914. There were two causes of mortality that showed an increase, and those were organic heart disease and pulmonary tuberculosis.

The number of deaths reported in the entire city during the week was 1318, with a death rate of 11.84 per one thousand of the population, as against 1389 deaths and a rate of 12.98 during the corresponding week in 1914, a decrease in the absolute number of deaths of 71 and a decrease in the rate of 1.14. The death rate for the first forty-eight weeks of 1915 was 13.54 per one thousand of the population, as against a rate of 13.71 for the corresponding period in 1914, a decrease of .17 of a point.

**TUBERCULOSIS WEEK, DECEMBER 6 TO DECEMBER 12.**—The week of December 6 to 12 has been designated as National Tuberculosis Week. During this time, an effort will be made to revive interest in tuberculosis as still the greatest public health problem. This year special emphasis will be laid on the importance of regular medical examinations. Wednesday, December 8, has been designated "Medical Examination Day," and hundreds of thousands of circulars are being distributed to the people of New York City, urging them to consult their family physician, to submit to a thorough physical examination at his hands, and carefully to follow the advice he gives.

The New York Health Department has secured the coöperation of the Tuberculosis Committee of the Charity Organization Society and the Tuberculosis Committee of the Brooklyn Bureau of Charities, and through these agencies is distributing a large number of health leaflets through the churches and the labor unions of this city. The services of the field force of the Metropolitan Life Insurance Company and the Prudential Life Insurance Company have also been placed at the disposal of the Department for the distribution of these leaflets.

The physicians of every city can render invaluable aid to the cause of public health by advocating regular medical examinations to their patients and by carrying out the examinations with care and thoroughness.

**REDUCTION IN THE COST OF PRODUCING RADIUM.**—It has been announced that the Secretary of the Interior, through the Bureau of Mines and Dr. Howard A. Kelly of Baltimore, has succeeded in reducing the cost of the production of radium. The cost of radium at the Denver Experiment Station, including the first experimental work, was \$37,000 a gram of radium metal. The market price of radium for the last two or three years has been \$120,000 to \$160,000 a gram.

"The Bureau of Mines produced this radium in coöperation with what is known as the National Radium Institute, which was organized for the purpose of studying the curative properties of radium and not for private gain. These

investigations from the first have been under the direction of Dr. C. L. Parsons, of the Bureau of Mines, the funds being furnished under coöperative agreement between the National Radium Institute and the Bureau of Mines by Dr. Howard A. Kelly, of Baltimore, and Dr. James Douglas, of New York. Up to the present time, five grams of radium have been extracted from the carnotite ores, and about half of it has been delivered in finished form to the Kelly Sanatorium, in Baltimore, and to the Memorial Hospital, in New York."

**AFFILIATION OF MEDICAL SCHOOLS.**—It is announced that on November 15, final plans were arranged for a union between the Medico-Chirurgical College of Philadelphia and the Medical School of the University of Pennsylvania. It is expected that this affiliation may also be joined by the Polyclinic Hospital of Philadelphia, which maintains a graduate medical course for physicians.

**MANUFACTURE OF DE-ALCOHOLIZED WINE.**—In the issue of the JOURNAL for August 19, we commented editorially on the possible use of de-alcoholized beverages as a preventive of inebriety. In a recent issue of the *Scientific American* is quoted from *L'Italia Agricola* a description of the manufacture of such de-alcoholized wine as a new feature in the Italian wine industry. The product contains all the components of wine including the ethers, aldehydes and tannic acid to which the taste is due. In Italy the process of this manufacture is by fractional distillation under relatively low pressure whereby the alcohol alone is removed.

**FIRST CRUISE OF THE ANDROSCOGGIN.**—The United States Coast Guard Cutter *Androscoggin*, which has again been assigned this season for hospital duty off the fishing banks, returned to Boston on November 24, from her first cruise off the Nova Scotia coast, during which relief was given to the crews of several fishing vessels.

**EXHIBIT ON HISTORY OF SURGERY.**—In connection with the Congress of Clinical Surgeons, meeting in Washington, November 26-27, an interesting exhibit of books and pictures, illustrating the history of surgery, has been prepared by Dr. Arnold C. Klebs, at the invitation of Colonel C. C. McCulloch, Librarian of the Surgeon-General's Office, and may now be seen in the Library Hall of the Army Medical Museum. Dr. Klebs is at present unofficially attached to the Surgeon-General's Library in an advisory capacity.

**FOOT AND MOUTH DISEASE.**—Report from Washington states that by a federal order issued on November 27, the quarantine against foot and mouth disease was completely raised in Massachusetts and New Jersey and modified in a number of counties in Illinois.

**PREVALENCE OF MENINGITIS, PELLAGRA, POLIOMYELITIS, SMALLPOX, AND TYPHOID FEVER.**—The weekly report of the United States Public Health Service for November 19, 1915, states that during the week ended October 30, there were 23 deaths from cerebrospinal meningitis in Sacramento, Calif.; 31 cases of pellagra in Nashville, Tenn.; 4 of poliomyelitis in Cleveland, Ohio, and in New York City; 9 of smallpox in New Orleans, La.; and 81 cases and 8 deaths of typhoid fever in New York City.

#### EUROPEAN WAR NOTES.

**CHOLERA IN AUSTRIA-HUNGARY AND GERMANY.**—During the week ended August 22, 287 cases and 166 deaths of Asiatic cholera were reported in Hungary, and during the week ended August 29, 212 cases and 124 deaths. During the week ended September 18, there were six cases and one death of cholera in Germany. Nearly all the cases were among civilians. During the same period the disease was prevalent among prisoners of war in detention camps at Erfurt, Magdeburg, Marienwerder, Oppeln, Posen and Stettin.

In Galicia from December 27, 1914, to September 18, 1915, the official statistics in the monthly *Bulletin* of the International Office show 27,591 cases of cholera and 15,270 deaths. Of these, 699 cases with 180 deaths occurred among prisoners of war, and only 172 cases with 34 deaths among soldiers. Judging from the statistics for Austria for the period from August 15 to September 18, it would appear that the epidemic has been more severe among the civil population, as there were no fewer than 15,175 reported cases and 9,113 deaths, of which only 327 cases with 32 deaths occurred among the troops, and 39 cases with 12 deaths among prisoners of war.

**WINNER OF A NOBEL PRIZE.**—In a recent issue of the JOURNAL we noted the award of the Nobel Prize in medicine to Dr. Robert Bárány of Vienna. Dr. Bárány is a Hungarian born in 1876 and has devoted his life chiefly to work upon the ear. At the outbreak of the European War, being then a lecturer at the University of Vienna, Dr. Bárány volunteered in the medical service and was assigned to have charge of a military hospital of 250 beds at Przemyśl. Upon the capture of this city by the Russians he was made prisoner and transported to a camp at Irkutsk in Siberia. Here he fell ill with malaria and was later transported to Nerw. Dr. Bárány's work has been chiefly in the diagnosis and treatment of diseases of the internal ear, especially with regard to the interpretation of aural vertigo. Garrison, in his history of medicine for 1914, says:

"Labyrinthine vertigo or vestibular nystagmus, is interpreted by Bárány as a disturbance of function of the vestibular nerve, or the organs to which it is distributed, and he has traced its origin to a large number of different causes with which it might be confused. He has intro-

duced a number of ingenious differential tests, such as production of nystagmus by irrigation of the external meatus with cold or warm water, or by having a patient try to point at an object with his eyes shut after having previously touched it, and he has been able to prove his case by successful operations on the cerebellum, or the internal ear. He has also devised a "noise" machine for testing paracusis Willisii, and other diagnostic novelties."

**WAR RELIEF FUNDS.**—On Dec. 4 the totals of the principal New England relief funds for the European War reached the following amounts:

Red Cross Fund .....	\$142,764.01
American Ambulance .....	70,799.58
Serbian Fund .....	54,018.76
Allied Fund .....	42,680.30
French Fund .....	26,824.01
Armenian Fund .....	22,488.53
Surgical Dressings Fund .....	13,097.50
LaFayette Fund .....	12,833.99
Italian Fund .....	12,311.69

#### BOSTON AND NEW ENGLAND.

**THE WEEK'S DEATH RATE IN BOSTON.**—During the week ending December 4 there were 243 deaths reported, with a rate of 17.41 per 1000 population, as compared with 219 and a rate of 15.86 for the corresponding week of last year.

There were 31 deaths under 1 year, as compared with 33 last year, and 90 deaths over 60 years of age, against 64 last year.

Total deaths reported in 48 weeks from Jan. 2 to Dec. 4 were 10,864, against 10,864 for the corresponding period in 1914.

Deaths under 1 year reported in the same period were 1843 against 1837 for the corresponding period in 1914.

During the week the number of cases of principal reportable diseases were: Diphtheria, 54; scarlet fever, 41; typhoid fever, 2; measles, 43; whooping cough, 61; and pulmonary tuberculosis, 52.

Included in the above were the following cases of non-residents: Diphtheria, 7; scarlet fever, 3; measles, 1; and tuberculosis, 4.

Total deaths from these diseases were: Diphtheria, 4; typhoid fever, 2; measles, 1; whooping cough, 1; and tuberculosis, 24, in which are included the following deaths of non-residents: Diphtheria, 1; measles, 1; and tuberculosis, 2.

**ALUMNI OF THE UNIVERSITY OF MARYLAND SCHOOL OF MEDICINE.**—The regular winter meeting of the New England Alumni of the University of Maryland School of Medicine was held at the Quincy House, Boston, Wednesday evening, December 8, 1915. The following papers were read: "The Duty of the General Practitioner to the Hospital, and the Duty of the Hospital to the General Practitioner," by Dr. Louis A. Ruslow, Randolph, Vermont; and "Thyroids in General Medicine," by Dr. Frank Matulais, Boston, Mass.

**INSANE AND FEEBLE-MINDED IN MASSACHUSETTS.**—It has been computed that the number of feeble-minded in the State of Massachusetts is increasing at the rate of 139 persons per year. The average annual increase of the insane during the last twenty-five years has been 378. The insane, feeble-minded, epileptics, voluntary patients in insane hospitals, inebriates and those requiring temporary care amount to 17,204, or one for every 208 of the population.

So far as the birthplaces of the insane can be determined, 54% were born in the United States and 45% in foreign countries. But of the parents of the insane, 31.72% of the mothers were born in this country, and 68% abroad. Of the fathers, 30% were born in this country and 69% in another country.

As regards sex, the female insane outnumber the male—7263 to 6859. In the case of the feeble-minded the situation is reversed, the males numbering 1363 and the females 1068.

**PAYING WARD AT THE MASSACHUSETTS GENERAL HOSPITAL.**—Final arrangements have been completed for the erection of the new paying ward at the Massachusetts General Hospital. The addition will be eight stories high, built of limestone and brick, and will be one hundred and fifty feet long and fifty feet wide. The first floor will be devoted to administrative purposes. The operating room and etherizing room will be on the top floor. The remaining six floors will provide accommodation for about one hundred patients. The rooms are large and sunny, and will be made as homelike as possible. Those on the front of the building will have fireplaces. That this new ward will fill a long-felt want both on the part of physician and of patient by providing facilities for expensive medical care to those of moderate means and by affording members of the staff convenient means to care properly for such patients, there can be no doubt.

**RADIUM TREATMENT AT CARNEY HOSPITAL.**—It is announced that a gift of 25 milligrams of radium has been made to the Carney Hospital by M. Douglas Flattery, a Boston attorney, for the purpose of establishing a clinic for the treatment of malignant diseases. Mr. Flattery's gift to the Harvard Medical School for the establishment of a fellowship for the study of cancerous and allied growths was recently noted in the JOURNAL.

**SIAS LABORATORY AND BROOKS HOSPITAL.**—The Sias Laboratory and the Brooks Hospital, institutions erected by Mrs. Charles D. Sias in memory of her husband, are completed and were opened in Boston Nov. 18. The laboratory is intended to be used for original research, and its use, without charge, to any medical graduate who wishes opportunity to do such work. The superintendent of the hospital is Miss Elizabeth Peden, a graduate of the Massachusetts General Hospital.

## Massachusetts Medical Society.

COPY OF RESOLUTIONS PASSED BY  
THE SOUTHERN MEDICAL ASSOCIATION, AT  
DALLAS, TEX., NOV. 8-11, 1915.

THE attention of the District Medical Societies is called to the following resolutions which have been transmitted to the President of the Massachusetts Medical Society by the President of the American Medical Association:

*Whereas*, The President and the Honorable Secretary of War have announced in the public press that a scheme for the reorganization of the Army will be presented to Congress at its coming session, which will materially increase the military establishment, and

*Whereas*, We recall the indignant protests and criticisms of the Nation at the failure to provide adequately for the sick and wounded at the beginning of the Civil War and the Spanish-American War, and

*Whereas*, It is known that this failure was due to the lack of a sufficient number of medical officers in the regular army and a means for increasing the medical establishment at the outbreak of war, and

*Whereas*, In spite of the lessons of the Spanish-American War, which were fresh in mind in the reorganization of the Army in 1901, the Medical Department was not properly increased, and no provision was made for its expansion in time of emergency, and

*Whereas*, to correct the defects in the 1901 legislation, subsequent legislation was necessary in which the medical profession of the United States was called on to assist;

*Therefore*, Be it resolved by the Southern Medical Association, in session at Dallas, Texas, that the Secretary of War be petitioned to make adequate provision in the reorganization of the Army about to be presented to Congress for a sufficient number of medical officers for the regular establishment, which provision should aggregate a proportion of medical officers of, at least, seventy-five hundredths of one per cent. of the enlisted strength of the Army, or such numbers as the Surgeon-General of the Army may deem necessary, and,

Be it further resolved that the Secretary be petitioned to make provision in this reorganization for the expansion of the Medical Department at the beginning of war, by calling into service in the Medical Reserve Corps physicians from civil life who have been instructed in their special duties as medical officers in our summer camps, and otherwise as the War Department may see fit.



### Obituary.

#### FREDERICK WILLIAM RUSSELL, M.D.

DR. FREDERICK WILLIAM RUSSELL, for many years a practitioner in the town of Winchendon, Mass., died at the residence of his son-in-law, Dr. Frank J. Hall, 4119 Cedar Springs Avenue, Dallas, Texas, November 20, aged 71.

He graduated from Harvard College in the class of 1869, and from the Medical Department of New York University in the class of 1871. He was a hospital steward during the Civil War, and served in that capacity under his father, Dr. Ira Russell, who was commissioned by Abraham Lincoln to organize the hospital service in Tennessee, Missouri, and Arkansas, both father and son being in service at the close of the war at Prairie Grove, Ark.

After his graduation in medicine he associated himself in practice with his father in Winchendon, where father and son together conducted "The Highlands," a private institution for the treatment of mental and nervous invalids, an institution established many years ago by Dr. Ira Russell, and one of the first of its kind at that time.

After the death of his father, in 1888, Dr. F. W. Russell continued "The Highlands" up to three years ago, when from ill health, he gave up active work to make his home (together with his wife, Mrs. Caroline Marvin Russell, who survives him), with his daughter, Mrs. Frank J. Hall, in Dallas. During his brief residence in Dallas, because of his genial nature and interest in all social and scientific bodies, he made many friends.

Having been for many years a member of the Worcester County (Mass.) and various other medical societies of New England, he was elected honorary member of the Dallas Medical and Surgical Association, and was elected President of the Texas Harvard Club, which honor he declined, but was elected and re-elected honorary president of this organization.

In connection with his medical studies, Dr. Russell made a lifetime study of entomology, and became an entomologist of note. He was a member of the American Entomological Society, and during his life, made a rare collection of moths, and wrote some valuable manuscripts and classified and made valuable plates of various specimens of moths of his collection.

His remains were taken by his son, Walter M. Russell, of Emporia, Kansas, to Winchendon, Mass., where they were laid to rest in the family lot.

#### BENJAMIN JOY JEFFRIES, M.D.

DR. BENJAMIN JOY JEFFRIES was born in Boston, March 26, 1833. He died November 21, 1915, in his 83rd year. He descended from a long line of distinguished ancestry, in whom he took great pride, the first of whom to come to this country from England was David (1658—1742), who graduated at Harvard in 1708. His father and grandfather were physicians of Boston. It was his grandfather, John, Surgeon-General of the British forces in America, who crossed the English Channel in a balloon from England to France in 1785.

Dr. Benjamin Joy Jeffries graduated from the Boston Latin School, and received his degree of A.B. in 1854, and three years later, that of M.D. from Harvard, after which he continued his medical studies in Vienna, principally under Prof. Arlidge and Prof. Hebra, for it was his intention on returning to Boston to practise in the two specialties, dermatology and ophthalmology, and for two years he gave especial attention to these two classes of affections. In connection with Dr. Francis P. Sprague and the writer, he opened a free dispensary for their treatment in Eliot street. He also began with his colleague the translation of Hebra's great treatise on dermatology. He also gave a course of lectures on this subject to the medical class and wrote a small work on "Diseases of the Skin." Gradually he gave up his dermatological practice and devoted himself exclusively to the study and treatment of diseases of the eye.

He held the post of ophthalmic surgeon to the Massachusetts Charitable Eye and Ear Infirmary from 1866 to 1902, a devoted service. He was a member of many local, national and international ophthalmological societies and congresses. He was especially interested in the subject of color blindness, and his treatise, "Color Blindness, its Dangers and Detection," published in 1879, was long the standard authority on the subject and led to important public measures for the safety of railroad transportation and travel on the sea. He published also a book entitled "The Eye in Health and Disease." He was particularly interested in the question of the proper administration of ether in ophthalmic surgery and made a special trip to England to demonstrate the better methods in use in America to his foreign colleagues.

Dr. Jeffries was very fond of the ocean and yachting, and spent many summers at Swampscott and on the shores of Hingham Harbor, and latterly, at Marblehead.

He was greatly endeared to many of the surviving members of the profession and to his classmates, now reduced to seven in number. In the last few years he had undertaken the duties of class secretary.

He wrote many papers read at medical so-

cieties, the principal titles of which are given in the appended footnote.\*

He was a member of many medical and scientific societies and a constant attendant at their meetings. He was long an officer of the Boston Society of Natural History. He was surgeon of the Boston Independent Corps of Cadets, and took a strong interest in military matters. He belonged to several social clubs; the Porcellian and Hasty Pudding while in college; the Thursday Evening and Somerset later in life. He was much interested in local colonial history in which his ancestry for several generations had played a conspicuous part.

He married in 1872 Marian, daughter of Charles Shimmmin. There were two children from this union, Charles who died during his freshman year in college, and a daughter, Marian, recently married to Dr. James Howard Means, Harvard, 1907. Dr. Jeffries' wife died in 1888, since when he had lived in the old family mansion, 15 Chestnut street, with his daughter who has taken the most devoted care of him in his declining years. Dr. Jeffries remained in fairly good health and continued to practice his profession until the last three or four years. His strength and functions have slowly failed, and he died of quick pneumonia on November 21, an honorable, genial man.

- \* 1868 I Emeculation of the Eyeball.  
II Section of Ciliary Nerves and Optic Nerve.  
III Some Unnecessary Causes of Impaired Vision, 17 pp.  
8 mo. Boston. D. C. Gray & Son.  
1871 Diseases of the Skin: Recent Advances in their Pathology and Treatment. Boylston Prize Essay, 79 pp., 8 mo. Boston. A. Moore.  
1871 Report on Progress of Ophthalmology, 59 pp., 8 mo. New York, 1871.  
1871 The Eye in Health and Disease: Being a series of articles on the anatomy and physiology of the human eye, and its surgical and medical treatment. 319 pp., 8 mo. Boston. A. Moore.  
1872 Animal and Vegetable Parasites of the Human Skin and Hair. 102 pp., 8mo. Boston, A. Moore.  
1872 Reintroduction of Ether Into England, BOSTON MEDICAL AND SURGICAL JOURNAL, 1872, lxxviii.  
1872 On Operations for Breaking up Attachments of the Iris to the Crystalline Lens, or Posterior Synechia. Rept. Mass. Char. Eye and Ear Inf., 1872, xlv.  
1873 Miscellaneous Papers. Tr. Am. Ophth. Soc., 1873.  
White Sarcomatous Intra-ocular Tumor.  
Intra-ocular Tumor; White Fusiformed-cell; Emeculation. Sarcoma; Emeculation.  
Two Cases of Herpes Zoster Ophthalmicus, Destroying the Eye.  
Traumatic Rupture of the Choroid, Without Direct Injury to the Eye.  
1874 Records of One Hundred and Five Cases of Operation for Cataract, BOSTON MEDICAL AND SURGICAL JOURNAL, 1874, xci.  
1875 Reports of Sixteen Cases of Cataract Operations, BOSTON MEDICAL AND SURGICAL JOURNAL, 1875, xciii.  
1878 Incurability of Congenital Color-Blindness. BOSTON MEDICAL AND SURGICAL JOURNAL, 1878, xcvi.  
1878 Lecture on Color-Blindness and its Practical Relations.  
1878 Dangers from Color-Blindness in Railroad Employees and Pilots. 40 pp., 8mo. Boston. Rand Avery & Co., 1878.  
1878 Relative Frequency of Color-Blindness in Males and Females. BOSTON MEDICAL AND SURGICAL JOURNAL, 1878, xcvi.  
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## Miscellany.

### STEREOPTICON LOAN LIBRARY.

THE United States Public Health Service has recently issued the following information regarding the stereopticon loan library which it maintains in Washington:

"The stereopticon loan library established by the United States Public Health Service, consists of over 2000 views, the majority of which are original, dealing with the aspects of various public health problems. Additions are constantly being made to the collection. The slides are classified by diseases or subjects, the following being the respective divisions of the library:

**Alaska.** Eighty-three views depicting living conditions in the territory of Alaska, the type of villages, and the diseases from which the natives suffer.

**Children and Children's Diseases.** The various eruptive diseases of children are shown in 50 views. Chiefly of interest to physicians.

**Health Exhibits.** Over 90 photographic slides of the exhibit of the U. S. Public Health Service at the Panama-Pacific International Exposition. Many of these views explain the means of dissemination of different diseases, the mortality therefrom and the value of preventive measures. All are original.

**Hookworm.** The geographic distribution of the disease, its economic importance, the life history of the parasite, its invasion of human tissue and the resulting effects, are demonstrated in a series of over 90 slides.

**Indians.** Housing and living conditions among American Indians. Shown in 50 views.

**Leprosy.** Forty-five slides depicting the disease. Principally of service to physicians.

**Living Conditions.** Contains a relatively small number of slides. See other subjects.

**Malaria.** Prevalence of the disease, the malarial parasites, larval, pupal and adult developmental stages of mosquitoes, breeding places, methods of extermination, including oiling, drainage and the types of fish destructive to larvae. Prevention of the disease by screening and the use of quinine. 275 views.

**Milk.** Eighty views showing tuberculous cows, proper and improper stabling, care and treatment of dairy herds, methods of obtaining

pure milk, spread of milk-borne epidemics, and the value of sanitary measures.

*Miscellaneous Subjects.* Sewage disposal, fumigation and cleaning of railway cars, and views relating to Rocky Mountain Spotted Fever.

*Mouth Hygiene.* Twelve slides showing the development of the teeth.

*Parasites and Organisms.* Over 200 views of the common organisms causing the diseases of man, including different types of water organisms. Also the developmental stages of fleas, lice, flies, and disease-bearing vermin.

*Pellagra.* Statistical data, geographical distribution and the lesions of the disease presented by 60 photographic slides.

*Plague.* Perhaps the most complete collection of original plague slides extant. Practically every aspect of plague prevention is demonstrated, including the eradication of rodents and squirrels, methods of rat-proofing, ship fumigation, the examination and classification of rats, the plague organism, and the relation of fleas to the spread of the disease. Over 500 views.

*Rural Schools.* Not yet complete. Ten slides.

*Service General.* The activities of the U. S. Public Health Service, depicted in 320 views. Quarantine vessels and stations, methods of fumigation, the examination of passengers, detention barracks and quarantine procedure. The mental and physical examination of immigrants, types of immigrants, and immigration stations. Marine Hospitals, including the tuberculosis sanatorium at Fort Stanton, New Mexico.

*Smallpox.* Ninety slides illustrating the eruptive stages of the disease, the protection afforded by vaccination and the lesions thereof.

*Trachoma.* The disease in its acute and chronic stages, and such effects as pannus, entropion and blindness. Trachoma among the American Indians and the relief work of the Public Health Service in the mountains of Kentucky are also shown. One hundred and twenty slides, many of which are colored.

*Tropical Diseases.* Incomplete. Filariæ, trypanosomes, and intestinal parasites illustrated, together with the common infections of the tropics. Forty views.

*Tuberculosis.* One hundred slides showing the economic loss from tuberculosis, susceptible races, the tubercle bacillus, pathological conditions in the lungs, the relation of the disease to improper housing and the causes predisposing to infection. Also the methods of care, precautions to be exercised and the benefits of sanatorium treatment.

*Typhoid Fever.* Of great public health interest. The rôle of uncleanness, infected milk, polluted water, improper sewage disposal, and flies, in the dissemination of the infection. Methods of prevention, including proper care of milk supplies, avoidance of water pollution, and the prevention of fly breeding; 350 views.

*Yellow Fever.* Mosquitoes in different stages of development, preventive measures, including

detention camps. The discoverers of the means of transmission of the disease.

#### HOW TO USE THE STEREOPTICON LOAN LIBRARY.

The slides are loaned to physicians, health organizations, educators, welfare workers, and others, without cost. Persons desiring slides should advise the Bureau as to what subjects they are interested in, so that the proper catalogues may be forwarded. The slides should be selected by number, and the request made upon the application blank. If desired, the Public Health Service will undertake to make the selection, provided the applicant will state what he wishes to illustrate. There is no arbitrary limit within which the slides are to be returned, but as the demand far exceeds the supply, it is expected that they will be returned at the earliest possible moment. Stereopticon lanterns are not loaned, but as the slides are of standard size,  $3\frac{1}{4}$  by 4 inches, any lantern may be used. It is expected that slides broken by careless handling or packing will be replaced; these to be ordered from the Government contractor by the U. S. Public Health Service, and the bill therefor to be paid by the borrower.

It is requested that in returning the slides, a letter of transmittal be forwarded, stating the approximate number of persons to whom the views have been shown. The container should be labelled with the name and address of the sender, and returned by express prepaid or by mail. Photographs, from which it is possible to obtain slides of public health interest, will be gladly received and promptly returned."

#### RABIES AND DOG MUZZLING IN NEW YORK.

In the weekly bulletin of the New York Department of Health for November 20, appears in part the following statement about rabies and the muzzling of dogs in that State.

"The presence of rabies in New York City either in men or animals is a reflection on the work of the Department of Health, but it is a more severe reflection on the loyalty and co-operation of the citizens of the city as indicated by an opposition to a most necessary and justifiable ordinance, viz: the muzzling of dogs when at large.

Rabies has existed both in men and animals for a long period of years, but of late has been assuming proportions likely to occasion well grounded alarm in the minds of all who appreciate what this means. Previous to 1904, rabies was rarely present in this city, only an occasional case being encountered. One case was found in 1904, none in 1905 and only three in 1906. Since 1906, cases have been encountered each year, lately in somewhat increasing numbers. The disease has not been confined to dogs and other animals, but has taken toll in human life as well.

In both human beings and animals, rabies is almost invariably fatal. In a large percentage of cases of human beings bitten by rabid animals, prompt use of the anti-rabic treatment has been most effectual in preventing the development of rabies. This treatment is administered free of charge at the Pasteur clinics of the Department of Health, or the material will be furnished to private physicians for administration.

Although most willing to furnish treatment for rabies, the Department of Health cannot overlook the fact that this disease is entirely preventable. With proper appreciation of the significance of this truth and cheerful coöperation on the part of persons owning dogs, rabies could be speedily and effectively controlled and in time be prevented.

In England, rabies was very prevalent until effectual muzzling of dogs and a strict dog quarantine demonstrated that the disease could be controlled. Since 1902, there has been no rabies in all England. The chart of Frothingham clearly demonstrates the effectiveness of this measure: when it was loosely enforced, rabies increased; but when rigidly enforced, the disease soon diminished and then disappeared.

The Board of Health of the City of New York has declared\* that dogs, unmuzzled and at large, are a nuisance, dangerous to life and detrimental to health. This declaration was broad and comprehensive and forbade owners and others to allow dogs at large. For a time, the regulation was rigidly enforced and had a marked effect upon the situation, as can be seen by the experience in the Borough of Richmond. After two years of active work, rabies in this borough was controlled. Subsequently, owing to the influence of agencies hostile to work of this character, this activity was discontinued and rabies soon reappeared.

The dog muzzling law now in force in the city of New York is contained in Section 17 of the Sanitary Code. This reads, as follows:

'No unmuzzled dog shall be permitted, at any time, to be on any public highway or in any public park or place in the city of New York.'

A dog, properly muzzled, is not a menace to the community. For this reason, therefore, and in justice to all other dogs, no dog should be permitted to go at large at any time without an efficient muzzle. According to Webster, muzzling is defined, as follows: To bind the muzzle of, to fasten the mouth of, *so as to prevent biting or eating*.

Some owners claim that certain dogs cannot be efficiently muzzled. This is absolutely not true. Other owners say that a muzzle makes their dogs irritable and surly. Horse owners know that a bridle will do the same to a colt until it is trained. New false teeth do not usually fit comfortably until time and nature soon have made the necessary adjustment, yet

after a time, they are worn without the least discomfort.

So far as dog-bites and rabies are concerned, the ordinary work of the Department of Health is limited to the investigation of reported attacks, the destruction of the biting dog if vicious, and the administration of Pasteur anti-rabic treatment to those bitten by a rabid or suspected rabid animal."

## STERILIZATION OF DENTAL INSTRUMENTS.

THE possibility of the transmission of disease through the medium of dental instruments has probably been considered by every occupant of the dentist's chair. It constitutes one of the fears with which a patient is possessed the moment he adjusts himself for his period of treatment. Authoritative instances of the conveyance of contagion in this manner are extremely rare, its frequency not being determinable, although few will deny the possibilities of occurrences of this character.

The list of organisms which may contaminate dental instruments is formidable, but this does not mean that the diseases of which they are the causative factors necessarily ensue if they are accidentally carried into the mouth. Their presence upon dental instruments is, however, an indication of what the surgeons call poor technic. In surgery, poor technic is usually attended with disastrous results, but in dentistry errors of this character may produce no ill effects. In spite of this relative freedom from danger, dentists are determined that their methods shall equal the highest standards.

Cleanliness should be the primary consideration in all dental operations. The white coat of the operator represents more than comfort; it is the symbol of neatness. The dentist who works with unclean instruments, who provides soiled linen, or who places a common drinking glass before his patient, should be judged accordingly. Fortunately the members of the profession who do these things are criticized and suffer from loss of patronage, so that there is a strong tendency on the part of dentists to maintain their surroundings above reproach. With the sterilization of instruments some carelessness may manifest itself, partly owing to the fact that many instruments are injured by such processes, are too complicated to be treated in this manner, or that the public is not competent to detect errors of technic. However, the public is rapidly learning the value of aseptic methods and the proper equipment is now found in nearly all dental offices.

Thorough studies of the sterilization process have recently been made for dentists by the United States Public Health Service, at the request of various dental associations throughout

\* Resolution adopted June 17, 1908.



the country, and in a recent publication of that Service detailed information will be found as to the accepted methods for the sterilization of all dental instruments.

## Correspondence.

### A WOMAN QUACK OF OLDEN TIMES.

Boston, Mass., Nov. 26, 1915.

Mr. Editor: Human credulity in high place is well shown in the account given by Bolton of the notorious Mrs. Joanna Stephens, a woman practitioner of medicine, who flourished exceedingly in London about 1738. Certainly from the accounts of the doings of this unscrupulous dame, Perkins of "Metallic Tractor" fame, was a feeble amateur. Proclaiming that she had discovered a remedy of wonderful value in a painful disease, she soon had a large and lucrative practice in the highest social circles in London.

After receiving many enormous fees, she proposed to make the formula of her wonderful medicine public property, for the sum of five thousand pounds. Her friends and enthusiastic patients started a subscription, to collect this amount, but it was not found possible to raise the required sum. Nothing daunted, the woman's friends petitioned Parliament, and the petition was granted. A certificate was signed, Bolton tells us, by twenty justices. The certificate bore evidence to the "Utility, Efficacy, and Dissolving Power of the Medicines."

Analysis of these wonderful medicines, three in number, "a powder, a decoction, and pills," showed that the powder was composed of calcined egg shells and snails, the decoction of a mixture of herbs, soap and honey, boiled in water. The pills were made of "calcined wild carrot, burdock seeds, ashen keys, hips and haws, all burned to blackness, soap and honey."

A comparison of the sums spent by the public at the present day for nostrums equally as valueless as the above, is not exactly a compliment to these supposedly enlightened times.

Very truly yours,

WM. FRANK COUES, M.D.

31 Massachusetts Avenue.

### AN IMPERFORATE ANUS.

Boston, Mass., Nov. 26, 1915.

Mr. Editor: The case of the child recently born in a western city with distressing deformities, a case which has received altogether too much publicity, brings to mind the following incident:

Many years ago a man brought his son, 14 years old, to the Boston City Hospital for an examination. The boy was operated on soon after birth for an imperforate anus and was dependent upon a pad and diaper. Having no other control over the artificial anus, he was a nuisance to himself and to his family. The father was so disgusted at his son's condition that he proposed to bring a suit for malpractice against the physician who performed the operation. In other words, he proposed to sue the doctor for saving the child's life. His main object in applying at the hospital was to secure experts who would testify for him in court.

The man was assured most emphatically that the physician had done his duty faithfully and skilfully and that there were no grounds whatever for his taking legal action. As he could obtain no experts, no suit was ever brought, so far as known to the writer.

GEORGE W. GAY, M.D.

### CHANGES IN THE MEDICAL CORPS, U. S. NAVY, FOR THE FIVE WEEKS ENDING NOV. 27, 1915.

October 26, Surgeon E. B. Williams, detached Norfolk Hospital, to Marine Brigade, Haiti.

P. A. Surgeon G. A. Riger, detached, *Texas* to Marine Brigade, Haiti.

P. A. Surgeon D. G. Allen, detached, *New Hampshire* to Marine Brigade, Haiti.

P. A. Surgeon E. U. Reed, detached, N. Y. Recruiting to Marine Brigade, Haiti.

Asst. Surgeon R. A. Torrence, detached, Portsmouth Hospital, to Marine Brigade, Haiti.

Asst. Surgeon A. E. Beddoe, detached, *Tennessee* to Marine Brigade, Haiti.

Asst. Surgeon E. M. Waterhouse, detached, *Montana*, to Marine Brigade, Haiti.

Asst. Surgeon C. E. Drago, detached, *Nebraska* to Salem.

October 25, P. A. Surgeon G. W. O. Bunker, to New York Hospital.

P. A. Surgeon A. H. Dodge, from Salem to Portsmouth Hospital.

November 2, P. A. Surgeon A. E. Lee, to Training Station, San Francisco.

P. A. Surgeon A. L. Clifton, from N. Y. Hospital to Nashville.

Asst. Surgeon W. G. Espach, from New York to Nashville.

November 3, Medical Inspector R. P. Crandall, to New York Supply Depot.

November 4, P. A. Surgeon R. W. McDowell, from Ozerk to Fulsos.

Asst. Surgeon F. J. Riordan, from Tonapas to Ozerk.

Asst. Surgeon R. L. Crawford, from Nashville to United States.

November 8, P. A. Surgeon F. H. Brooks, from Marine Barracks to Norfolk Yard.

Asst. Surgeon F. H. Haigler, from *Disie* to *Texas*.

November 10, Surgeon F. A. Asserson, to Newport Hospital.

P. A. Surgeon R. A. Warner, from Newport Hospital to New York.

November 15, Surgeon F. G. Abekon, commissioned from June 13, 1914.

Surgeon A. Stuart, to Recruiting Station, Lowell, Mass.

P. A. Surgeon S. L. Higgins, to Las Animas Hospital.

Asst. Surgeon F. H. Bowman, from *Delaware* to Marine Brigade, Haiti.

November 16, L. W. Sprattling, detached, Fleet Surgeon to Norfolk Yard.

Surgeon H. O. Shiffert, from Norfolk Yard to New York.

Surgeon J. F. Leys, from New York December 1, 1915, to Fleet Surgeon, Atlantic Fleet.

November 19, P. A. Surgeon B. F. Jones, from Disciplinary Barracks, Port Royal, S. C., to Marine Barracks, Port Royal, S. C.

P. A. Surgeon H. E. Jenkins, from Disciplinary Barracks, to Port Royal Marine Barracks, S. C.

Asst. Surgeon H. Priest, from Marine Brigade, Haiti, to Norfolk Hospital for treatment.

Asst. Surgeon F. Cores, from Marine Brigade, Haiti, to Norfolk Hospital for treatment.

November 24, P. A. Surgeon D. C. Walton, from *Yorktown* to Asiatic Station, via Army Transport of January 5, 1916.

Asst. Surgeon A. N. Ross, from *Maryland* to *Yorktown*.

## NOTICES.

THE AMERICAN SOCIETY FOR THE STUDY OF ALCOHOL AND OTHER NARCOTICS will hold its 45th annual meeting in the parlors of the Hotel Raleigh, Washington, D. C. Dec. 15 and 16, 1915.

This was the first society of medical men in the

world to take up the scientific study of alcohol and other narcotics. Its papers and transactions have been published in the *Journal of Inebriety*, and comprise the first scientific literature on the subject.

Thirty-two papers on different phases of the subject will be read at this meeting by specialists and distinguished medical and scientific men. These studies will be confined exclusively to the facts and conclusions from laboratory and clinical experience.

The public are cordially invited to be present. Programs can be had by addressing the Secretary,

Dr. T. D. CROTHERS,  
Hartford, Conn.

**INFANTS' HOSPITAL, BOSTON.**—A clinical meeting of the staff of the Infants' Hospital will be held at the Rotch Memorial building, 55 Van Dyke Street, Friday, December 17, 1915, at 8.15 P.M.

#### SUBJECTS.

- I. Intravenous Injections in Infants.
  - II. Diagnosis of Duodenal Catheter.
  - III. Demonstration of Cases.
- Members of the medical profession are cordially invited.

#### HARVARD UNIVERSITY AND MASSACHUSETTS INSTITUTE OF TECHNOLOGY.

##### SCHOOL FOR HEALTH OFFICERS.

##### Special Lectures in December.

All lectures will be given from five to six o'clock on the date specified and in the amphitheatre of Building E., Harvard Medical School, unless otherwise specified. All lectures will begin promptly on the hour.

December 7. "Posture and Deformities" (3 lectures). Dr. Robert W. Lovett, Professor of Orthopedic Surgery, Harvard Medical School.

December 10. "Medical Inspection of Immigrants" (2 lectures). Dr. M. V. Safford, Medical Inspector of Immigrants, U. S. Public Health Service.

December 13. "Legal Medicine" (4 lectures). Dr. George B. Magrath, Medical Examiner, Suffolk County.

December 14. "Posture and Deformities." Dr. Lovett.

December 15. "Legal Medicine." Dr. Magrath.

December 16. "Medical Inspection of Immigrants." Dr. Safford.

December 17. "Legal Medicine." Dr. Magrath.

December 20. "Legal Medicine." Dr. Magrath.

December 21. "Posture and Deformities." Dr. Lovett.

Lectures for January, February and March will be announced at a later date.

\* Dr. Lovett's lectures will be given at the Children's Hospital, Longwood Avenue, Boston.

#### UNITED STATES NAVY MEDICAL CORPS.

The next examination for appointment in the Medical Corps of the Navy will be held on or about February 23, 1916, at Washington, D. C.; Boston, Mass.; New York, N. Y.; Philadelphia, Pa.; Norfolk, Va.; Charleston, S. C.; Great Lakes (Chicago), Ill.; Mare Island, Cal.; and Puget Sound, Wash.

Applicants must be citizens of the United States and must submit satisfactory evidence of preliminary education and medical education.

The first stage of the examination is for appointment as assistant surgeon in the Medical Reserve Corps, and embraces the following subjects: (a) anatomy, (b) physiology, (c) materia medica and therapeutics, (d) general medicine, (e) general surgery, (f) obstetrics.

The successful candidate then attends the course of instruction at the Naval Medical School, which will begin on or about October 1, 1916. During this course he receives a salary of \$2000 per annum with allowances for quarters, heat and light, and at the end of the course, if he successfully passes an examination in the subjects taught in the school, he is commissioned an assistant surgeon in the Navy to fill a vacancy.

Full information with regard to the physical and professional examinations, with instructions how to submit formal application, may be obtained by addressing the Surgeon General of the Navy, Navy Department, Washington, D. C.

W. C. BRAISTED,  
Surgeon General, U. S. Navy.

#### SOCIETY NOTICES.

**NEW ENGLAND PEDIATRIC SOCIETY.**—The thirty-ninth meeting of the New England Pediatric Society will be held in the Boston Medical Library, Friday, Dec. 10, 1915, at 8.15 P.M.

I. Report of Council and nomination of officers.  
II. Report of Treasurer.

III. The following papers will be read:

1. Simple Incision in the Treatment of Pyloric Stenosis, by James S. Stone, M.D., Boston.

2. Spasmophilia: Report of Ten Cases.—Etiology and Treatment, by Fred P. Webster, M.D., Portland, Me.

3. Fermentative Diarrhea in Infants, by Lewis W. Hill, M.D., Boston.

IV. Election of officers.

Light refreshments will be served after the meeting.

F. M. BUCKINGHAM, M.D., *President*.  
RICHARD M. SMITH, M.D., *Secretary*.

**SUFFOLK DISTRICT MEDICAL SOCIETY.—SURGICAL SECTION.**—Meeting Wednesday, December 15, at 8 P.M., at the Boston Medical Library.

Address by Dr. William L. Rodman of Philadelphia, President of the American Medical Association, on "Surgery of Gastric and Duodenal Ulcer."

The discussion will be conducted by Dr. George W. W. Brewster, Dr. Franklin W. White, Dr. George W. Holmes, of Boston.

CHARLES L. SCUDDER, M.D., *Chairman*,  
W. J. MIXTER, M.D., *Secretary*.

**MIDDLESEX SOUTH DISTRICT MEDICAL SOCIETY.**—A special meeting of the Society will be held at the Boston Medical Library on Wednesday, Dec. 15, 1915, at 12 o'clock, noon.

Paper:

Dr. William W. Walcott of the State Department of Health will speak upon the following subject:

"Field Work of the State Department of Health on Communicable Diseases."

Dr. Eugene R. Kelley, Director of Division of Communicable Diseases, State Department of Health, will open the discussion.

Lunch will be served at 1.15 P.M.

LYMAN S. HAPGOOD, M.D., *Secretary*,  
6 Garden St., Cambridge, Mass.

#### APPOINTMENTS.

**CREIGHTON MEDICAL COLLEGE, OMAHA.**—Dr. Robert Reiter of the University of Chicago has been appointed professor of anatomy at the Creighton Medical College; and Dr. G. W. Earle has been appointed instructor in pathology and director of the clinical laboratory.